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DISEASED MEAT AS AN ARTICLE OF FOOD.

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THE conflicting evidence which, from time to time, has occurred in cases relating to the sale of diseased meat—as to its fitness for food, and the unsatisfactory conclusions that have been drawn therefrom, is one amongst the many reasons which has induced me to bring the subject forward through the medium of the *Veterinary Journal*. In a sanitary point of view, and therefore in the interest of the public at large, it is especially a subject of grave importance. It is also one which affects the veterinary profession generally, as relating to those animals which it is the chief business of its members to study.

Mr. Fleming's recent work on "Veterinary Sanitary Science" has been a grand step in the right direction. He truly observes, "The necessity for recognising the existence and utility of it was never greater than in the present day."

The immense demand for animal food by all classes of society, is perhaps in no country in the world greater than in our own. And when we take into consideration the numerous diseases which are transmitted to man from the lower animals, and especially of the prevalence of Tuberculosis—for which England has gained an unenviable notoriety—it is not too much to assert that the subject of "diseased meat" should stand pre-eminently forward.

Dr. Parkes, in his "Hygiene" (p. 186), says: "So great is the influence of food on health, that some writers have reduced Hygiene almost to a branch of dietetics. Happiness, as well as health, is considered to be insured or imperilled by a good or improper diet; and high moral considerations are supposed to be involved in the due performance of digestion. If there is some exaggeration in this, there is much truth; and, doubtless, of all the agencies which affect nutrition, this is the most important."

As the disputed cases have generally been those of Lung-disease, I will commence with Pleuro-pneumonia. Pleuro-pneumonia may be described as a contagious blood-disease, of a sub-acute form, which comes on insidiously, and often makes considerable progress before it is observed. Hurried breathing, a short dry cough, injected visible mucous membranes, quick pulse, and considerable increase of temperature, denote that inflammatory fever is present in no small degree.

Post-mortem examination: The thorax usually contains a quantity of fluid, with bands or masses of fibrine floating in it; the pleural membrane is considerably thickened, and has a fibrinous deposit on its surface, with or without adhesion of the lungs to the walls of the chest; in protracted cases they are generally adherent. The lungs are enlarged, consolidated, and when cut present a peculiar marbled appearance (alone characteristic of this disease). This appearance is due to fibrinous deposit in the connecting areolar tissue of the lobules; and not unfrequently an abcess or two is found.

Keeping this condition of lung in mind, we must now direct our attention to the blood. In Kirke's "Physiology" we read: "The purposes which have been assigned to the blood—those, viz., of conveying oxygen and nutritive materials to the several parts of the body, and of carrying away from them to excretory organs their refuse matters—require that it should be constantly moving through all the parts, and at certain periods should be exposed to the atmosphere, in order that it may imbibe oxygen, and emit carbonic acid and water, the compounds into which the principal refuse matter is converted. To this end, it is provided in man and all warm-blooded animals, that all the blood which has passed once through the several parts of the body shall

traverse the lungs, and be exposed to the atmosphere, before it again takes the same course." In short, in the lungs the blood becomes re-oxygenized and purified.

Can we, then, expect from lungs in the condition I have named as found in Pleuro-pneumonia, the blood to undergo properly this change necessary for the well-being of every part of the animal frame? I say, No! But it may be urged, in fact it has been, that there is sufficient lung left healthy to perform the required function.

I must, however, confess my inability to conceive that such a small portion can efficiently do the work of both lungs in a natural state. I further am of opinion that the unhealthy state of one part contaminates the rest.

Secondly: Respiration is arrested, more or less, according to the quantity of lung consolidated. The same physiologist, on the effect of such arrest, says: "When the process of respiration is stopped, either by arresting the respiratory movements, or permitting them to continue in atmosphere deprived of uncombined oxygen, the circulation of blood through the lungs is retarded, and at length stopped. The immediate effect of such retarded circulation is an obstruction to the exit of blood from the right ventricle; this is followed by delay in the return of venous blood to the heart; and to this succeeds venous congestion of the nervous centres, and all the other organs of the body. In such retardation, also, an unusually small supply of blood is transmitted to the heart; and this small quantity is venous." In other words, we may take it that stale blood is going the round of the circulation, each time gathering more refuse, and with less prospect of carrying it off.

Thirdly: We know inflammatory fever is in itself sufficient to change the character of the blood. In such a condition the red corpuscles run together, giving rise to what is termed the *buffy coat;* whilst there is an increase of fibrine and white corpuscles, together with many other changes in the chemical proportions of the blood. We cannot have a better illustration of this effect than vaccination, in which the insertion of the smallest particle of virus, or vaccine lymph, affects the whole blood, creating a general change in its character, and rendering it for a certain

period diseased. And as a proof that this change is not momentary, but lasts for a considerable time, we know that re-vaccination, until years have passed away since the first inoculation, often takes no effect. The blood, according to Kirke, once inoculated, retains, by the exactness of its assimilation, the taint which it first received; though, after a time, it may not have in it one of the particles into which the taint first passed.

Pleuro-pneumonia blood being then undoubtedly diseased, the next question suggested is, How does it affect the flesh? Simply by conveying to it unhealthy materials for its proper support. All the nutritive elements are derived from the blood; and in order that the process of nourishment may be perfectly accomplished, it is necessary that the blood from which they are derived should be in a fit state and composition. Therefore it is, I maintain, contrary to reason to expect well-nourished, or even healthy, flesh from the condition of blood in Pleuro-pneumonia; as this fluid, from being only imperfectly aerated, is not in a fit state to repass through the system. We may as well expect the brook, into which continually flows some poisonous stream, to go on its course unpolluted, as that flesh deriving its support from poisoned blood will remain healthy.

And now with regard to using such flesh for food. True, instances are recorded in which no ill effects have been known to follow the consumption of Pleuro-pneumonia meat. But is this sufficient evidence to sanction its use as an article of diet? Most certainly not. For neither has it yet been proved that human beings may eat with impunity of such food without in some degree, however remote, laying the foundation for disease, or a condition of system that will develop into, or be susceptible to take on, other diseases, for which at the time we are unable to trace any cause.

One reason for apparently no ill effects being known to follow the consumption may be that, fortunately, individuals do not feed daily or continually on such meat. Did they do so, I doubt not some pernicious results would soon be manifest.

Dr. Livingstone stated that the consumption of Pleuro-pneumonia meat by the natives in South Africa produced carbuncle and death. It has since been urged (though I have not ascer-

tained on what grounds) that he confounded the disease with Anthrax. Be that as it may, as observed by Dr. Parkes, "Altered quality of what is otherwise good food produces a great number of diseases . . . . the instances are becoming numerous, and are increasing every day, as attention is directed to the subject. We should conclude," he adds, "from general principles, that as all diseases must affect the composition of flesh, and as the composition of our own bodies is inextricably blended with the composition of the substances we eat, it must be of the greatest importance for health to have those substances as pure as possible. Animal poisons may, indeed, be neutralized or destroyed by the process of cooking and digestion; but the composition of muscle must exert an influence on the composition of our own nitrogenous tissues, which no preparation or digestion can remove."

I am thankful to say the wholesale traffic in Pleuro-pneumonia meat is now greatly modified; that few veterinary inspectors pass it for food, except in the very early stages of the disease, and before any great amount of inflammatory action has been set up. But even the investing of inspectors with this discretionary power is attended with evil, as it allows a loop-hole for ignorant, non-qualified, or unprincipled functionaries to pass for food that which is totally unfit.

I pass on, next, to the disease commonly known as "Grapes:" viz., Phthisis Pulmonalis, Tuberculosis, Scrofula, Consumption, etc. The flesh of an animal, the subject of this malady, may be equally condemned with that of Pleuro-pneumonia, or more so. Were it a question of choice, the latter is certainly to be preferred.

The "grapy" beast is hereditarily diseased; so that its system has been contaminated throughout life. In all instances the flesh should be destroyed, so far as its sale for human food is concerned; offal it is, meat it is not. A butcher once observed to me that he could peel these so-called "grapes" off like marbles, and that no one, himself excepted, would be the wiser. Doubtless, ignorant persons might be thus deceived, but the scientific inspector would at once detect that the carcase had been tampered with.

What, again, is usually the condition of the lungs in this disease,—the organs in which the blood becomes purified in

healthy cattle? Why, so far as broken-down structure, pus, and tubercle are concerned, they are in an infinitely worse state than in Pleuro-pneumonia; and not alone are the lungs so diseased: heart, liver, kidneys, intestines, and the whole of the mesenteric glands, are involved. To use a common expression, "the animal is filled with bunches of grapes,"—in other words, scrofulous or tuberculous deposit. Yet these cattle are frequently in good condition, so far as appearance goes; indeed, fat. But can it be a healthy condition? It is well known that animals suffering from many diseases (particularly of this type) will make flesh, lay on fat, and, unsuspected by the owner, propagate their malady at the same time by contact or in breeding. And so in "Grapes" we must bear in mind that, however fat and "beef-like" the carcase looks, scrofulous blood has been circulating throughout the system of the animal it belonged to, from the earliest period of its being; and therefore, if used for food, however unpleasant the statement may be, the consumers are eating, to all intents and purposes, scrofulous, tuberculous, blood-poisoned meat, call it what we may. In this disease the blood exercises the same baneful influence on the tissues it nourishes, as in Pleuro-pneumonia, but with this difference, that it is not uncommon to find tubercle deposited in the muscles which form the meat we eat.

The experiments mentioned in Mr. Fleming's admirable paper on "the transmissibility of tuberculosis" ably prove that tubercule may be communicated from one species of animal to another through eating the uncooked flesh in which tuberculous matter is deposited. And with such conclusive evidence of its transmissibility, does it not suggest the probability that Tuberculosis in human beings is not entirely traceable to hereditary predisposition, or the usual diseases that tend to produce it? For though thorough cooking may destroy the virulent properties of such flesh, there are unquestionably instances in which meat is not sufficiently cooked to have this effect. This is startling. But how much more so, when we consider that the milk secreted from the blood of such animals forms a daily article of diet for young and old people, and is partaken of usually in its natural state! Here we have still greater cause to think, with

dismay, what we may have imbibed innocently in our infancy, or when invalided with a condition of system amenable to its influence!

Mr. Fleming, in the third paragraph of the paper referred to, writes as follows: "The flesh of the ox is consumed as food, and it is essential that it should be in as healthy a state as possible, though the process of cooking might be relied upon, to some extent, to annul any pernicious properties it might have acquired through the animal having been in a diseased condition during life. *Far otherwise is it with the milk derived from the cow.* This seldom undergoes any process which would be likely to destroy whatever injurious qualities it might chance to be endowed with, through the insanitary state of the animal which yields it; and when we reflect that milk enters largely into the diet of young people—is, indeed, the chief aliment of children and infants, whose bodies it builds up—the question of acquiring disease in this way, and especially such a malady as Tuberculosis, becomes one of the gravest moment."

Again he observes, at the conclusion of his paper: "From what has already been ascertained, there is every reason to view with grave suspicion the use of the flesh of phthisical cattle as food, especially if the disease is much advanced and the tissues generally involved. *But with more reason the milk from cows affected with Tuberculosis should be prohibited,* more particularly for the use of infants, who mainly rely upon milk for their sustenance, and whose powers of absorption are very active. Even if this milk did not possess such dangerous infective properties, its deficiency in nitrogenous elements, fat and sugar, and the increased proportion of earthy salts, would alone render it objectionable as an article of diet. It has long been known that it was liable to produce Diarrhœa and Debility in infants; but though many children fed on such milk have died from general or localized Tuberculosis, the part probably played by this fluid in the production of that malady has not been suspected."

Thus much for Pleuro-pneumonia and Tuberculosis. I have dwelt on these two diseases particularly, because numerous cattle so affected are butchered in the usual way, and offered for

sale without opposition. In fact, the bulk of diseased meat sold proceeds from these two maladies; whilst, on the other hand, animals affected with those next mentioned usually die and are smuggled into the market surreptitiously, and, compared with the former, are few and far between; the carcases are also, as a rule, destroyed when discovered.

I shall briefly notice some of the most prominent of these diseases:—

CARBUNCULAR FEVER (*Hæmato-sepsis*, Prof. Simonds), commonly known as "Black-Quarter," "Quarter-Evil," "Irons," "Speed," "Struck," etc.

This is a malignant blood-disease, of an anthracoid nature, which, from its usually affecting the animal in one part, and running its course with great rapidity, has gained the various terms mentioned as those it is known by. From the gangrenous state of a large portion of the tissues, and the putrid condition of the blood, the flesh is totally unfit for food, though it is not uncommon to offer for sale the quarters which show no traces of the disease. Both inoculation and consumption of the flesh have been attended with fatal results. Menschel records an instance in which twenty-four persons were attacked with Malignant Pustule: the majority from eating the flesh, the minority from inoculation. Livingstone substantiates this with many other authorities. Even so far back as the year 1617, we have it stated that more than 60,000 people perished in the neighbourhood of Naples through eating the flesh of anthracoid animals.

PARTURIENT APOPLEXY ("Milk Fever," "Dropping after calving," etc.).—If slaughtered in the early stage, and before the system becomes impregnated with medicine, the flesh of cows affected with this disease is, perhaps, the least harmless of any named. But if the animal has died, and though, as in many cases, it is bled immediately afterwards, its sanitary condition is not such as to allow its sale for food; and if the case has passed through the course of treatment generally adopted in this disease, it is rendered still more unfit for consumption from its liability to produce enteric disturbance and fever.

TRICHINOSIS (Pig).—The fearful results that have arisen from eating flesh affected with this disease, however well

cooked, are so well known, and its condemnation so fully acquiesced in, that it is almost needless to offer any comment upon it. But its exceptional character claims for it some little notice. From the Fifth Report of the Medical Officer to the Privy Council I extract the following case abbreviated :—"A robust maid-servant was admitted into the Dresden Hospital on the 12th Jan., 1860, having been indisposed since Christmas, with depression, lassitude, loss of appetite, heat, and thirst. Death took place on the 27th. In the *post-mortem* examination, the muscles were found, on microscopic examination, to harbour vast numbers of non-capsulated *trichinæ*. The parasites were living, some coiled in spirals, others with extended bodies; and all (as Professor Virchow was the first to show in a fragment of muscle which was forwarded to him for examination) living within the sarcolemma of the primitive fibrils. They showed various stages of development; they were diffused over all the striated muscles of the body, with the exception of the heart, and that in such vast numbers, that under a small magnifying power as many as twenty were in the field of vision simultaneously. The intestinal mucus was found to be swarming with mature *trichinæ* of both sexes; and the remarkable fact was elicited that female *trichinæ* are viviparous; the central portion of the bodies being observed to be full of well-developed embryos."

"Inquiry as to the source of infection being made, it was ascertained that on December 31st, four days before the patient was taken ill, two pigs and an ox had been slaughtered in the establishment of her master. Some smoked ham and sausage, prepared from the meat of one of the pigs, were fortunately obtained, and on examination proved to be full of *trichinæ*. The butcher of the establishment had also been taken ill shortly afterwards, and confined to his bed for three weeks, which Professor Zenker surmised "was due to the immigration of *trichinæ*, and their not being sufficiently extensive to prove fatal."

Dr. Leuckart states that he has seen a corpse in which half an ounce of flesh contained 300,000 *trichinæ*. Mr. Gamgee (Fifth Report, Med. Officer to Privy Council), in mentioning the way *trichinæ* injure, according to Dr. Leuckart, says: "It is very startling to learn that a dangerous and fatal enteritis may be

induced by the mere act of piercing through the coats of the intestines, which is the method adopted by trichinæ to reach our insides, and take up their abode there. Further, that they resist external influences calculated to destroy all other parasites." Leuckart adds: "If in the course of these observations I have chiefly held pork in view, it is chiefly because human entozoa are found in their young condition more among pigs than all other animals slaughtered." Mr. Gamgee remarks: "I can state, on my own authority, that less attention, if possible, is paid to diseased pigs slaughtered than any other animals; and I am confident that the more the subject of parasitism is studied, the more will it be found necessary to have well-trained veterinarians to inspect, wherever slaughtering for human food is carried on.

MEASLES, *Cysticercus Cellusosus* (Pig).—The flesh of pigs affected with this disease produces the *Tænia solium*, or tape-worm, in man. Like the former disease, it is due to a parasite, the larva of the tape-worm; therefore, where this worm is present, and pigs have access to it, we may look for measles. Mr. Gamgee, in the report alluded to, says: "It is certain, however, that those pigs suffer most from Measles that live in common with human beings; that are allowed to roam about at will, and to eat human excrement around the cottages, in the roadside, etc. A very few people affected with tape-worm discharge joints enough to contaminate an immense number of pigs. Each tape-worm has an average lifetime of two years. It produces in that time 1,600 joints, and each of these contains 53,000 eggs, making in all 85 millions. Each egg is capable of developing into a *cysticercus*, but, fortunately, the great majority of the joints of a tape-worm are destroyed. Were they not, every pig would soon be measley, and every man, woman, and child suffer from *Tænia solium*." The flesh, therefore, of pigs infested with Measles, though not perhaps attended with the same danger as Trichinosis, should, nevertheless, be in all cases condemned. Mr. Gamgee observes that it is quite evident that inspectors of such meat must be helminthologists.

MEASLES (in Cattle). The *Cysticercus* of the ox produces the *Tænia mediocanellata* in man, and though up to the present

time no injurious effects (according to medical authority) have been known to be produced in the human species by these bodies, yet, as Dr. Parkes observes, "It is by no means improbable that some effect on man may be hereafter discovered to be produced." From the fact of its creating another form of tapeworm in human beings, its use for food should be prohibited.

In the fifth Report of the Medical Officer to the Privy Council, Mr. Gamgee observes: "Recent researches by Dr. Leuckart demonstrate incontestably that there is a form of tapeworm not unfrequently confounded with *Tænia solium*, which does not originate in man from eating measley pig, but from eating imperfectly cooked veal and beef. In many parts of the world, a hydatid prevails amongst cattle, which develops into *Tænia mediocanellata* in the human intestine. That hydatid is found in many parts of Europe, and probably exists occasionally in this country. Dr. Cobbold has a specimen of *Tænia mediocanellata* in his collection, obtained from Sheffield, and he informs me that we shall probably find that this variety of tape-worm is not at all rare in this country. Leuckart quotes an observation which interests us as Englishmen. He says that Knox observed a tape-worm epidemic during the Kaffir war in 1819, amongst the English soldiers, due to their being fed on unsound beef. Abyssinians are affected with this disease, and observations have been made in Germany and Russia as to the occurrence of *Tænia mediocanellata* amongst children fed 'aus diätetischen Gründen,' on raw beef."

TYPHOID FEVER (in Pigs). Commonly called the "Purples," the "Soldier," "Apoplexy," etc. This disease, which lately has prevailed to a great extent in England, is allied to the Typhoid Fever of the human being, and frequently assumes a malignant type. The amount of enteric disturbance, followed by extravasations of blood underneath the skin, often succeeded by putrid decomposition, render the flesh unfit for food. The sides, when cured for bacon, frequently show marks of these extravasations or blood blotches, and these, it is stated, are passed off by bacon dealers for bruises.

"ROT" (in Sheep). "The Fluke," *Distoma hepaticum*. This

disease, which is due to a parasite in the liver, is found in sheep in all conditions. The flesh, when the animal has been affected some time, becomes poor in quality, pale and moist. Its use as food, and especially when dropsical swellings have supervened, should be interdicted. This parasite produces in the human being the *Echinococcus* disease. It has been rarely observed in England, but is stated to be common in Iceland.

SMALL POX (in Sheep). *Variola ovina.* This is an eruptive contagious blood disease. The flesh of sheep affected with it is soft, pale, and moist, has a nauseous smell, and, according to medical authorities, produces sickness, Diarrhœa, and Low Fever. It is unfit for human food.

CANCEROUS DISEASES. As these are generally of a constitutional taint, accompanied, more or less, with Pyæmia, the flesh should not be used for food.

DISEASES OF THE URINARY AND GENERATIVE ORGANS render the flesh more or less unfit for food. In the former, the tissues become impregnated with the odour of urine, if no worse results follow. In the latter, where there is inflammation of the womb, uterine abscesses, retention of the placenta, or a decomposed fœtus, the sickening odour accompanying each of these conditions is likewise communicated to the flesh, and it is not fit for consumption.

INSPECTION OF MEAT.

IT is not my wish, nor do I for a moment intend, to arrogate to our profession the sole competency of being able to decide in disputed meat cases. At the same time, I feel constrained to observe that mere practice without scientific knowledge is not sufficient to pronounce what may or may not be eaten in the way of flesh by human beings with impunity.

Acting with veterinary surgeons, or having undergone a scientific training, meat inspectors might be of immense benefit to society. Without such training or professional assistance their value becomes considerably diminished; inasmuch as there are many diseases connected with those animals they are particularly called on to inspect, which they are totally unacquainted

with; and therefore, not knowing the nature of the disease, they are unable to tell the effect it may produce on the flesh, to its detriment for food.

It is said, "a little knowledge is a dangerous thing," but it cannot be denied that in certain cases a little knowledge is a very useful thing. Let it be necessary that an inspector should have a certain amount of knowledge concerning the nature of disease in those animals it will be his duty to inspect before he is appointed for that purpose, and it will soon be manifest how infinitely better adapted he will be for the post than starting, as many do, ignorant of disease almost in any form, and who take their cue—the only one they have to guide them—from the appearance of the meat.

True, the moist or flabby appearance that meat is often destroyed for, guides, to a certain extent, the inspector in his decision. I say to a certain extent, because it must be borne in mind that thousands of diseased carcases are offered for sale that never present this appearance at all. Diseased meat will "set" not only moderately, but firm, and seem in many cases well fed, especially in Pleuro-pneumonia and Tuberculosis. On the other hand, certain influences will prevent sound healthy meat from "setting,"—as exposure to wet, close packing, etc. Therefore, although it is right to look upon moist unset meat with suspicion, at the same time an apparently "well-set" piece should not be carelessly passed by.

Mr. Fleming, in his "Veterinary Sanitary Science," divides meat into three qualities, as follows:—

The first comprises flesh of a bright-red colour, well mixed with white fat, firm and elastic in consistency, and possessing an agreeable odour. The best is obtained from fattened adult oxen, aged from four to eight years, and which have been early castrated. It may be exceptionally obtained from fat cows, not more than six years of age, and especially when they have been "spayed."

"Flesh of the second quality should still have a good red colour; but it has less fat, and is procured from animals which are of inferior fattening qualities, older than the preceding, and those which have been bred from, or have not been very well cared for.

"The third quality of flesh is generally darker in colour, or it may be paler; it is soft, poor in fat, and watery; after drying for two or three hours, the connective tissue becomes yellowish, instead of remaining of a pearly-white hue. It is obtained from animals too young or too old, and which have been only indifferently fed.

"With young animals the flesh is pale; if the colour is too dark, it may be suspected to have been obtained from a bull or from an over-driven animal."

I agree with Mr. Fleming that meat of this quality should not be sold for food, though, as he observes, custom has tolerated it.

Without any classification, I will take what should be the average appearance and condition of sound good beef. Externally, it should be covered more or less with white fat; an absence of this points to deficient feeding. Occasionally the fat is yellow, according to the description of food the animal has had, or its breed. Alderneys and Guernseys particularly exhibit a yellow hue, which not unfrequently extends to the other tissues; there is also little fat externally in these cattle, but in the region of the kidneys, mesentery, and abdominal muscles, it is usually found in great abundance.

The lining membrane of the chest (the pleura) should be smooth, glistening, and free from deposit of any kind. Effusion of lymph, or thickening, denotes, as a rule, lung disease; and though it is the practice of butchers to scrape or dissect this membrane away where it has become affected, there is nearly always to be observed a blush or stained appearance on the ribs and intercostal muscles, that cannot be concealed.

The meat or flesh should be elastic and firm to the touch, and when cut ought to present a bright-red appearance; it should yield little or no serum, unless immediately after slaughter. The muscles should present much the same colour throughout, and be moderately intermingled or marbled with fat. In Christmas beef, or that which is highly fed, this fat-veined appearance is often excessive, to the detriment of the meat; inasmuch as where there is a preponderence of fat there is a decrease of muscle, and the relative proportion of albumen (which is essential in food) is consequently low.

Softening of the inter-muscular connective tissue, or infiltrations of fluid or pus, denotes the commencement of putrefaction or disease.

The Marrow. This, in the hind limbs, should be of a light red or rosy colour towards the extremities of the bone; paler, and of a solid consistency, in the centre. In the fore limbs it is of an oilier nature. An absence of marrow, or deficiency in its quantity, shows insufficient feeding, and a dark soft condition of it, disease and putrefaction.

According to Dr. Parkes, the amount of bone in proportion to the whole meat should be twenty per cent.

In a hundred parts of meat, he gives the following proportions of constituents:—

	Water.	Albumi.	Fats.	Salts.
Meat of best quality with little fat . . .	74·4	20·5	3·5	1·6
,, Common quality	75	15	8·4	1·6
,, Very fat	63	14	19	3·7

Moleschott gives the composition of fresh beef (according to Parkes this is the mean of all continental analyses) as follows:—

Water	73·4
Soluble albumen and hæmatin . . .	2·25
Insoluble albumenous substances . . .	15·2
Gelatinous substances	3·3
Fat	2·87
Extractive matters	1·38
Kreatin	0·068
Ash	1·6

With regard to the best age of animals for food, they should neither be too young nor too old. The flesh of animals killed too young is deficient in nutritive elements; whilst that of animals too old loses its tenderness of fibre, and is indigestible. Oxen yield the best meat from four to eight years. Sheep from two to four years. Pigs should be well fed; they are slaughtered at various ages.

In calves and lambs, the condition of the bones, particularly the articulations, will guide one to some extent in determining the age. If unborn, or in early life, they are of a reddish hue; at a later period, of a bluish-white or leaden hue.

The flesh of unborn calves is pale, soft, extremely moist, and deficient in fat.

A deep purple tint is said to indicate that the animal has not been slaughtered, but has died with the blood in it (Letheby). This condition is particularly seen in the flesh of animals which have been suffocated or drowned. The muscles in such instances are easily separated from the bones, the meat is unset and moist, and if kept a short time emits a peculiar soapy or faint odour, changes to a greenish hue, becomes still more wet, and quickly decomposes.

MUSCULAR LESION.

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THE following case may perhaps be considered of some interest, on account of the severity of the symptoms and long duration of the lameness, together with the ultimate completeness of the recovery. The diagnosis is doubtless vague; but to definitely determine the exact injury would, I think, be conceded to be a difficult matter. The subject was a bay mare, about ten years old, and in fair condition. While at work in a brougham, on the 23rd of August, 1871, she suddenly showed great dulness and disinclination to proceed, and when stopped she shivered very much, and her mouth was cold. She was taken out of harness and walked to my premises, about a mile distant; an antispasmodic draught was administered, and she was led to her stable half-a-mile further. On her way thither she commenced to walk very lame behind, and perspired profusely. I first saw her half-an-hour after she reached her stable (11.30 a.m.); she was then in great pain, moaning, looking round at her flanks and constantly curling her upper lip. She had also a very anxious expression of countenance, and on every effort to progress her hind-quarters suddenly dropped. This weakness so increased, that in a short time she was unable to stand; a warm perspiration covered her body, but the extremities and buccal membrane were cold; the pulse numbered forty-two per minute. She was put into a large loose-box, and anodyne medicine, with diffusible stimulants and solution of aloes, was given her; the former medicines were repeated at intervals, and

mustard was applied over the loins. She remained down in great pain for several hours, but later in the day got up without much difficulty, appearing easier; she ate a little hay and drank water. Inflammation, however, seemed to be supervening, and in the evening the mare was down again, evincing much suffering; pulse eighty, and temperature high. She repeatedly looked round towards her flanks, and curled her upper lip in the air; the fæces were coated with mucus, and the urine of a dark, bloodlike colour. She was well supported with straw, and watched through the night.

August 24th. She had risen twice or thrice during the night and walked round the box; but she had very little command over her hind-quarters, especially the off one, which dropped under her at every step. Pulse seventy-six. She continued to suffer much throughout the day, lying down and rising again, and continuing to evince the same indications of pain. Anodyne medicines and diffusible stimulants were given.

August 25th. Pain not so severe; pulse sixty; the mare lay quietly at intervals, but when up was continually walking round the box, showing the same loss of power over the off hind limb, dragging it after her and resting only on the toe. Repeated the medicine, also gave some linseed oil.

August 26th. The mare was much better, appetite returning, but no improvement had taken place in her method of progression—the hind-quarter dropping at every attempt to sustain weight upon it. She, however, from this time gradually improved in all respects, and by the 31st of August all pain had disappeared; the appetite was normal, and she placed the foot almost flat on the ground, bearing a little weight upon the limb while standing still; but on attempting to move the same dropping was very apparent. The prognosis did not appear very favourable, but it was the owner's wish to continue treatment and allow time for recovery. So, after a blister had been applied over the hip, and two or three weeks' rest had been allowed in the stable, the mare was turned into a field for a month, where she continued to walk in the same manner. She made very slow progress; at the end of January, 1872, she still walked on her toe and dropped the quarter slightly when walking. I

again saw her on February 28th, six months having elapsed since the commencement of the illness, and she was then not sound, though the dropping of the quarter was hardly perceptible in her walk. A shoe with high calkins was applied. The mare was put to work occasionally at the end of March, and soon began to trot well and place her foot flat on the ground. She has continued in regular work and in good health up to the present date.

It may be as well to mention that no slip or strain happened to the mare on the day she ceased work; but the coachman fancied something of the kind took place on the previous day, while she was dragging a heavy carriage up a steep incline at one of the railway stations.

THE POSITION OF VETERINARY SURGEONS.

BY JAMES LAMBERT, M.R.C.V.S., 17TH LANCERS.

MANY suggestions are made for improving the status of the profession, and one is that veterinary surgeons should dispense with shoeing-forges. Some might be able to do so, but most would find it impracticable. Nearly all our successful practitioners have forges, and they find they cannot do without them. The reason is sufficiently obvious: many cases of lameness can be remedied by altered shoeing, and few horses are shod in exactly the same way; hence the supervision of the veterinary surgeon is often requisite, not to observe every case, but to give instruction when difficulty arises. It is unnecessary to state other and well-known advantages to the veterinary surgeon in having a forge as part of his establishment.

As the abolition of the shoeing forge is, in most cases, not only impracticable but undesirable, the writer may state his opinion that no loss of position ensues from retaining it. There is no greater forfeiture of dignity in seeing that the horse is properly shod, than there is in the commanding officer of a regiment attending to the proper fitting of the clothing of his men. He does not make it, but he looks to the result; so it is, as regards shoeing, with the veterinary surgeon.

Why should not the real cause of the present unsatisfactory position of the profession be candidly declared? It is want of proper education, and that is, as has been before said, the fountain and the origin of all its evils. It is a melancholy fact, that a less amount of education is often deemed requisite for the veterinary surgeon than for other occupations which are not half so lucrative and interesting, and where there is not nearly so much necessity for learning.

There are many well-educated students, but there are far too many who are not so. No matter how much money a man may make by the practice of a profession or business, he will continually feel the disadvantage of a neglected education. Therefore, the necessity for a proper foundation cannot be too much impressed on the pupil, and on those to whom is confided the great trust of his instruction.

But, besides, the teacher himself is placed at the greatest disadvantage, if compelled to lecture to those whose minds are not trained to grasp what he is trying to convey to them. In the opinion of all, or nearly all, veterinary surgeons, the time of study at the colleges is far too short. It is absurdly so. Any one looking at the number of subjects to be learnt, will see that the great majority of students can only be temporarily crammed with an evanescent smattering of them in time for an examination, which must consequently be superficial.

Why then is not the educational difficulty boldly met and grappled with by those entrusted with our professional government and training? The old cry, that the prizes of the profession do not pay educated men, is fast becoming a false one in these days, when inspectorships at ten and fifteen shillings a day are little valued, even by young veterinary surgeons.

The preliminary educational test at the colleges is now so simple, in fact, so inadequate, that it should at least be carried out with the greatest strictness. It is all very well to say that good practical men might be kept out by a higher test, but that flimsy supposition should no more weigh with veterinary, than it does with medical colleges. It is, however, an erroneous and exploded notion.

If a certain adequate test were fixed, no youth would com-

mence the study of veterinary medicine without knowing what he had to do, and he who would not take the trouble to obtain sufficient preliminary education to enable him to understand what he had to learn, would be no loss to it.

Whoever will consider, for a few minutes, the great variety of knowledge a good veterinary surgeon ought to possess, will see that there is no profession which demands a more diversified education, and, it may be added, more tact, talent, and judgment to be successful.

The writer, then, feels certain that all those members of the profession who are really anxious for its progress, will agree with him that education is the only lever that can elevate its status. It is the one great and *necessary* starting point, and to begin elsewhere is like trying to plant a tree with its roots in the sky instead of in the firm earth.

It is often asked why the time of study at the colleges is not extended? Is it supposed that any one wishing to become a veterinary surgeon would be thereby deterred from doing so? What is the use of trying to cram students with a host of absolutely indispensable subjects, in a confessedly impossible time? It is most unjust, not only to the student, but to those who have eventually to trust to his skill and guidance.

The writer has never yet met with any desirable aspirant who would retire from the study of the profession if the college course were extended a whole year, as it ought to be at the very least. It is allowed on all sides that the time of study is quite inadequate. How absurd and illogical, then, not to make it sufficient. The teaching colleges will consult their own interest if they unitedly insist upon this, and will not then give cause for the bitter saying, so often heard, that they are too numerous, that teaching competition, so far from being healthy, is injurious to us, and that they appear to be trying to manufacture veterinary surgeons at the quickest and cheapest rate.

They will only be doing their simplest duty in insisting on improved education, without which they are only, with great labour, sowing on a barren soil. Education cannot be a disadvantage in any sphere of life; with us it is a necessity neither to be neglected nor disregarded.

It is forcibly shown to all of us by the Government, by those who have occasion for our services, by the press, and by the public, that the great utility of our science is not at all appreciated as it should be. It may be truly said that no branch of our profession takes the position to which its importance entitles it, and that therefore great loss is annually caused to the country.

During the last few years the profession has made some strides in the path of progress, and has thereby considerably improved its position. This is evidenced by its increased emoluments. Many veterinary surgeons now charge, and are gladly paid, one guinea for examining a horse for soundness; it is not many years since some of these veterinary surgeons performed that duty at a general charge of five shillings. This example alone shows what benefit arises from public recognition of the value of our advice.

We want to be properly recognised. Great strides of progress yet remain to be made, and as the profession is most desirous, and able, if well guided, to accomplish them, why not begin at improved general education, which all acknowledge to be the necessary and indispensable starting-point. Education alone will remove our disabilities, and will, speedily and surely, enable us to obtain all that we reasonably ask and hope for.

The silly rustic, having to cross a river, sat down on the bank to wait for all the water to flow by. He was losing his time. Let us not follow his foolish example, but either cross or bridge over the river of ignorance and prejudice as soon as possible, for we have every inducement to get to the other side.

VETERINARY PRACTICE IN INDIA.

BY STAFF VETERINARY SURGEON J. COLLINS, LATE INSPECTING VETERINARY SURGEON, BOMBAY PRESIDENCY.

(*Continued from page* 167.)

WHEN the *covered* operation has been performed under any of the preceding circumstances, it will be found that there is no necessity for any manipulation on the part of the dresser, with

the object of keeping the orifices open in a case of Hernia especially, and for obvious reasons. All that is necessary in the after-treatment is to keep the wounds clean and free from flies.

The reason for the above procedure is this: in the *uncovered* operation, the *tunica vaginalis reflexa* is retracted, and retained by the clam some distance above the extremity of the cord; there it adheres. To prevent a "champignon," this adhesion must be broken down, so that the end of the cord may retract and heal, either with the vaginal tunic, or within it, usually the former. When the *covered* operation has been performed, although there is a less amount of this tunic present (*minus* the circumference of the scrotum), yet from having been included in the same grasp of the clam with the cord, it cannot retract above it. A slough takes place where the clam was secured and suppuration established; but the inguinal canal is not opened, and no air gains access to it.

There is no great objection to the *covered* operation being performed at all times, in preference to the *uncovered.* There is no doubt the animals make better recoveries. The objection to it is the additional length of time required to strip down the dartos and integuments. A strong pair of clams should be employed, and left on for forty-eight hours.

Descent of the Intestines.

An occasional, but fortunately rare, attendant on castration is the "descent of the intestines" a few hours after the operation has been performed. Say the horse has been operated upon at seven o'clock in the morning; about two p.m. it is reported that the intestines are *down.* On visiting the patient, the operator finds from one to three feet of small intestine hanging from the wound.

This accident arises, in the opinion of the writer, from straining. Some horses strain violently after the operation, not as if to void fæces, but as if trying to expel testicles, cord, clams and all. In this way the intestines are forced through the internal ring. The writer met with this accident only in aged horses, in which, in hot climates, it is probable the ring is often relaxed;

and it is astonishing what a volume of intestine will pass through a small orifice.

These cases usually terminate fatally, but not always: about one in six may recover. The operator is generally blamed by those who do not understand the matter. People will not grumble half so much if the horse dies from Tetanus, simply because they think that any wound may cause that disease; but if he dies from Peritonitis, or protrusion of the intestines, they will close their ears firmly against any explanation. Yet it will be seen how completely an accident of this kind is out of the veterinary surgeon's power to prevent. The operation may have gone on perfectly right: no hernia, no adhesions, no abnormal appearances in any way; and yet in a few hours the "gut" may descend. Again, many horses will strain violently without protrusion resulting; whilst in the cases which do occur, the straining may have been only slight. This accident may follow any method by which the operation is performed; for even the covered operation offers no immunity to the protrusion of the "gut" through the inner ring.

The course to be adopted is obvious—cast the horse, reduce the hernia, take off the clam, and perform the covered operation. This looks simple enough, but it will not be found so in practice; for the "gut" is much swollen and strangulated. We have, in fact, a "strangulated hernia," although not under the circumstances which that affection is usually met with in India. And the operator will find it no easy task to reduce it; for often when partly reduced, a violent strain of the horse will force all out again into his hands. Nevertheless, he must persevere; opiates may be given, or what is better, chloroform. If the inner ring is constricted, it must be cut through, so as to admit of the return of the gut (the operation for "Strangulated Hernia" will be detailed hereafter); but great caution is required. It is better, if it can be done by dexterous manipulation, to reduce without cutting; for if the internal ring is opened too much by cutting, or tearing, as it is apt to do, no means with which the writer is acquainted will retain the intestines in the abdominal cavity. But this calamity need not of itself prove fatal, as when operating for chronic Scrotal Hernia the "gut" is left in the inguinal canal.

In all cases, by careful manipulation, or by slightly nicking the internal ring, the hernia can be reduced. The horse should be kept on his back, after applying the clams, for an hour or so, and cold water applied; he should then be let down on his side, with the affected side uppermost, care being taken throughout to keep the posterior half of the body well raised; but too often, from the exposure, necessary manipulation, etc., inflammation supervênes, and the patient dies within twenty-four hours; but, as before stated, not always.

The best means to prevent the occurrence of this accident is starvation, and the exhibition of physic previous to the operation, so as to reduce materially the size of the abdominal viscera.

Champignon.

An occasional and troublesome sequel to the operation with the caustic clams, is the disease called by French practitioners "champignon," *i.e.* a tumour, resembling in its rapid growth and conformation a mushroom, at the extremity of one or both cords—usually one only.

This disease invariably arises from mismanagement, generally neglect, on the part of the dresser to break down the adhesions which so rapidly take place between the cord and tissues around, whereby the recently severed end is prevented from retracting within the wound. The wound, in fact, closes round the cord, leaving its end swollen, stiff, and projecting. Instead of withering and healing over, a fungoid growth of exuberant granulations takes place; this rapidly grows and spreads, presenting a cauliflower-like appearance (by the way, the French might just as well call the disease "choux-fleur" as "champignon"—we have no name for it); it is as large, or even larger, than a cricket ball. If this is neglected, and the horse sent to work, the growth increases until a large tumour, purulent and offensive, is formed, which renders the animal useless. Sometimes the scrotum and subjacent tissues become involved, in a case of prolonged neglect, until the whole region presents one diseased mass.

In the preceding pages, instructions were given for preventing this affection. The writer never met with a case succeeding the

covered operation. The diseased growth is invariably found to take place only during the final healing process—from three to five weeks after the operation.

In a slight case, when the growth is not larger than a bean or small cherry, caustic applications will remove it; but when the tumour is large and growing rapidly, a more summary method must be put in practice. On examination, it will generally be found that there is a neck to the tumour, around which the integuments have closed. These must be freed with a scalpel for an inch or so in depth; then with the steel clam the tumour is grasped, and removed with the hot iron. This remedy is decisive and effectual; a slough comes away, and the wound rapidly heals over. There is no hæmorrhage, for the spermatic artery is closed for some distance.

When the whole region, including the cord, is involved in disease, it is beyond the reach of any effectual remedy.

"Tetanus" following castration, the writer always found to be fatal.

Of the many hundreds operated upon with the caustic clams, the writer only lost horses from either "Tetanus" or "Descent of the Intestines." From records, one in a hundred died from the former, and one in two hundred from the latter. He never had a case of "Peritonitis" from this cause. About eight-tenths of the number were horses from five to nine years of age. This is strong testimony in favour of the clam operation.

The natives of India have a great dread of using the knife; they therefore adopt a method of their own for destroying the functions of the testicles, which consists in breaking up their structure by means of external force. It is a common practice, and is called "Mulling;" it is barbarous and cruel in the extreme, and should be put a stop to: many horses die from it. The writer, when in India, instructed a great many natives in the clam operation, with favourable results.

Strangulated Inguinal Hernia.

This is an affection almost unknown in England, and in those countries where castration is generally practised; for in the gelding the inguinal canal closes, and the internal ring is so

reduced in size as to offer a physical obstacle to a protrusion of the "gut" through it. But if stallions come extensively into use, of which there are indications, practitioners may expect to meet with such cases at home.

In stallions the internal inguinal ring is always more or less open; and should the gut protrude through it, we have a "Hernia." Numerous instances occur in which the intestine remains permanently down, and the horse will do his work for years without any inconvenience. In those cases the ring is large, and the circulation uninterrupted; the Hernia can also be reduced readily.

The writer never met with a case wherein a chronic Scrotal Hernia of this kind became strangulated.

With regard to these chronic cases, he is inclined to the opinion that they are congenital; for although he had charge for several years of a large number of stallions—for some months as many as two thousand—he never met one in which the Hernia suddenly appeared; the horses invariably joined with them.

Some authors have asserted that the "gut" may pass in and out of the internal ring, producing depression and colicy pains when through the ring, and then curing itself by being withdrawn. The writer cannot corroborate this in any way. In his early experience he was haunted by this phantom when a stallion was admitted with Colic or Enteritis, fearing a Hernia might be present and remain undetected. Over and over again he cast horses to make a more careful examination. The result of his experience is, that if a certain well-marked symptom is absent—to be presently described—he was never once deceived by finding the "gut" imprisoned in the inguinal canal after death.

An irregular ascent and descent of the testicle on the affected side is said to be pathognomonic of Strangulated Inguinal Hernia, and that an amount of lassitude and depression is present before the Hernia becomes strangulated. This is by no means the case. This irregular ascent and descent of the testicle may be seen—generally the right one—in a case of ordinary Colic or inflammation of the hock, fetlock, foot, etc.; it is, in fact, an

indication of pain from any cause. In short, what is generally found in books on this subject is apt to puzzle and mislead the inexperienced practitioner, as it did the writer. Again, it is said that if a Hernia is present, it can be diagnosed by an examination *per rectum*. This is equally fallacious in many instances.

From the writer's experience, the protrusion of the gut is sudden, and it becomes at once strangulated, the animal exhibiting the usual expressions of pain. It occurs, for the most part, in horses which are in robust health and good condition; and it will be observed that cases frequently occur at the beginning of the "rains," when the ground, from being as hard as iron, becomes suddenly soft and holding. Horses also, on first sniffing the welcome rain, gambol and plunge with delight, making fools of themselves generally, when at exercise or at work. The reason cases now occur is that greater exertion is necessary to propel the body; this becomes suddenly a new exertion, from the ground being so holding; the abdominal viscera, in all such efforts, is compressed tightly, and the intestines are apt to be forced through any convenient opening, such as the internal abdominal ring. The writer remembers a case occurring from putting the horse through a riding-school lesson immediately after watering.

It is very necessary, of course, that Strangulated Hernia should be distinguished from Colic or Enteritis. With one exception, the symptoms are identical. It should be a rule with the veterinary surgeon in charge of stallions, in all cases to examine the scrotum, when one is admitted with symptoms of Colic or Enteritis.

A horse with Strangulated Hernia may not at first exhibit much pain, but simply an uneasiness, and looking round at his flanks; but the pain soon increases, and becomes acute and constant. The horse will lie and roll, break out into profuse sweats, and suffer the greatest agony. He may stand and paw for half-an-hour at a time; he will roll on his back and try to remain there, or will contort himself into every conceivable attitude, seeking for relief.

If left alone, these symptoms gradually merge into those indicative of intense inflammation, and finally gangrene. He

becomes pulseless, with cold sweats, sobbings, tremors, and finally death ensues. On a *post-mortem* examination, a foot or two of small intestines are found imprisoned in the inguinal canal, black and sphacelated.

All these symptoms are so analogous to those of an ordinary case of Enteritis, that unless the scrotum is examined, the practitioner cannot tell the difference. It is, in fact, a case of Enteritis, only brought about in a different way.

The distinguishing symptom is this: one side of the scrotum, generally the right side, is found to be full and tense: so full and tense, indeed, that the testicle can be hardly distinguished; in addition, the cord, *as high as can be reached,* is felt to be in the same tense and swollen condition. The scrotum and cord appear, in short, as if blown-out like a bladder; or rather, as if the inguinal canal and scrotum were distended to their utmost with air or fluid. This distension of the scrotum, but particularly of the canal, is characteristic, and not found in any other disease or affection of these parts. The other testicle and scrotum are available for comparison; these will be found soft, easily movable, and flaccid, in their normal state.

The distension is brought about by the presence of the knuckle of intestine in the inguinal canal, and by the intestine itself becoming inflated from the generation of gases within it, and their retention there; as well as from an increased secretion of serum being at once thrown out. This distension of the "gut" with air must have a tendency not only to add to the strangulation, but to draw still more of the intestine out through the ring, until the space and the elasticity of the parts reach their maximum.

In a case of Chronic Scrotal Hernia, the distension of the scrotum may be, and usually is, very considerable, from the gradual dilatation of the parts. In a case of Strangulated Hernia, the swelling is not so apparent; for, being sudden, the parts will not at once admit of such distension; in fact, so slight is it, that very often it cannot be detected by the eye without a close inspection. Even then the hand must decide the question. A scrotum the seat of a Chronic Hernia feels soft, compressible,

and, as stated elsewhere, the Hernia can be easily reduced. All this is the reverse of the condition of a scrotum and inguinal canal in which a Strangulated Hernia exists. The same in Œdema—the scrotum is soft, and does not feel like an inflated bladder.

Again, in "Orchitis," the testicle and cord are swollen; but the testicle can be easily moved in its scrotum and feels as hard as a stone, and it is evident to the touch that there is no fluid or air between it and the scrotum; but, above all, there are no colicy pains.

This tenseness of the scrotum and canal from inflation, is essentially pathognomonic of the disease; and when once known to the practitioner, he feels safe as to his diagnosis ever after. For in all cases of Colic or Enteritis, if this symptom is absent, he may rest satisfied that it is not a case of Strangulated Inguinal Hernia. On the other hand, if it is present, the sooner he operates the better; for the case will not cure itself.

CASE OF POISONING IN A COW BY ARSENITE OF COPPER.

BY LANCELOT T. BARKER, M.R.C.V.S., SKELTON-IN-CLEVELAND.

ON May the 20th last, in the early morning, Mr. Appleton, of Upleatham, requested my advice with regard to a cow which he thought had got the "Milk-fever." She had calved a week before; had milked well, and appeared all right when put in the byre the previous night; but on going into the byre in the morning, he found her lying prostrate, moaning, and foaming at the mouth. I told him I was of opinion that it was not the "Milk-fever," but that she had got something poisonous. This, he said, could not possibly be, as she had been brought in from the field the night before, and placed in the byre without anything to eat. In the meantime his son came to say that she was dead. I made a *post-mortem* examination, and found all the organs perfectly healthy, until I opened the abomasum, the mucous coat of which was covered with a greenish-coloured powder, and greatly inflamed and corroded. Laying the stomach

aside, I then opened the rumen, and in this I discovered at once the source of poison, viz., several folded pellets of paper, which had been stripped from the walls in the dwelling-house during re-papering, and thrown out. The cow had picked a large quantity up, and apparently having a relish for refuse, swallowed a sufficiency to cause death. The paper was largely dashed in fancy designs by the pigment known as "Scheele's green."

PARTIAL NECROSIS OF THE PEDAL BONES IN TWO HORSES.

BY THE SAME.

Two horses, the property of Messrs. Stevenson, Jaques, and Co., of Boosbeck Mines, are at present under my care. From these animals I have removed several portions of the inferior surface of the os pedis, which has exfoliated. This exfoliation is the result of Laminitis, incurred through continued bruises to the feet in the mines, from insufficient protection by shoeing. One horse is affected in both fore feet, and has suffered most excruciating pain. The other has only one fore foot involved. With regard to treatment, I had nearly all the horny soles removed, and the feet were poulticed and dressed with digestives. Healthy granulations are now present in both cases, and the animals appear to be approaching convalescence, though a fortnight ago each might be heard moaning heavily a considerable distance. During the early stages, the hoofs were dry, hard, and hot, and there was threatened sloughing at the coronet. On auscultation in one case, the heart for several days gave peculiar rasping and blowing sounds, with single dull thumps, from which I suspected pericardial and valvular complications, due to a rheumatic diathesis manifested previously by stiffness, and fluctuating swellings about the limbs. But since suppuration has taken place, the heart disturbance and the irritative fever and other complications appear to have vanished; the former has regained its normal action, and the latter are not visible. There are several small pieces of semi-detached bone to be removed yet in both cases; but I consider it bad surgery to

remove these forcibly, as hitherto the granulations appear to have insinuated themselves between the dead and living bone, and have aided in the work of exfoliation. To my astonishment, the soles have not bulged much as yet, nor do they appear to be likely to do so now.

LECTURES ON SOUNDNESS IN HORSES,

BY PROFESSOR FEARNLEY, LATE PRINCIPAL AND PROFESSOR IN THE ROYAL VETERINARY COLLEGE, EDINBURGH.

LECTURE II.

GENTLEMEN,—At our last meeting you will remember that we had brought the horse out of his stall, and having closed the door of the stable, were examining his eyes by the light over the door. I mentioned trying the tension of the two eyes, and shall only further observe that so much is tension resorted to as a test in the sister profession, that Mr. Bowman, of London, the distinguished oculist, indicates nine degrees of tension. We ought at least to distinguish three degrees: 1, normal; 2, increased; 3, diminished.

The anterior half of the eye, when apparently sound, or, still more, when evidently affected, claims our attention, seeing that the tension test and the relative size test have disposed of the posterior half satisfactorily. I mean by the anterior half of the eye, the conjunctiva, cornea, iris, and the lens, with its capsule; the aqueous humour seldom suffering, so far as we can make out, independently of the structures I have named.

The *oblique or focal illumination* is the readiest and best way of examining the anterior half of the eye. By its aid we are enabled to examine, with great minuteness, the appearances presented by the cornea, iris, pupil, lens, and even the most anterior portion of the vitreous humour. A candle or small lamp, and an ordinary pocket lens of from two-and-a-half to four-inch focus, is all we require. The light is held in front and to one side of the eye, at a distance of about a foot to eighteen inches, and on a level with the eye; the flame is then brought to a focus with the lens, and thrown first on the cornea, then on the iris and crys-

talline lens; the examiner's eye, being placed on the opposite side, in front of the horse's eye, catches the rays emanating from the latter. By shifting the cone of light from one portion of the cornea or lens to another, we may rapidly, yet thoroughly, examine its whole expanse, and detect the slightest opacity. Opacities of the cornea or lens appear by this reflected light of a light grey or whitish colour.

The catoptric test is a very useful one in diagnosing cataract, and had better be used along with the oblique illumination. It is conducted as follows:—A lighted candle or taper is moved before the eye. If the organ be healthy, three images of the light are seen. Two of these images are erect, the third is inverted. The first is an erect image of the light, and is produced by reflection from the surface of the cornea; the second is also erect, and is produced by reflection from the anterior surface of the lens; the third is inverted, and is due to reflection from the concave posterior surface of the lens. The first two images move in the same direction as the light, the third in the opposite direction. If the lens becomes opaque, of course the image from the posterior surface is lost, and that from the anterior surface also soon becomes indistinct.

Before proceeding further, let me say, once for all, that this is not a course that admits of any discussion on disease, further than considering those disorders, and their various degrees of intensity, which are open to doubt as to their rendering a horse unfit for the ordinary requirements of work, and therefore unsound.

The conjunctiva being more vascular, is less liable to permanent change than the cornea, so that we seldom look for alterations in it; but there are passing emergencies, such as Conjunctivitis (cold in the eye), foreign bodies, and wounds inflicted with the whip, which prevent our examining either the conjunctiva or the eye. In these cases, time should be allowed for a cure to be effected before offering an opinion. If, however, the case cannot wait, then examine and give an opinion on the other points of the horse; but make yourself clearly understood by your client that you give no opinion whatever as to the ultimate soundness of the affected eye. I have known a piece of wheat

husk purposely introduced under the upper eyelid of a horse suffering from cataract, for reasons too obvious to mention.

The cornea, of all other structures of the eye, most frequently shows signs of previous disease; and when we allow ample room for enlargement of the pupil in comparative darkness, the cornea in front of the pupil so dilated claims our special attention; for any opacities, from whatever cause, are unsoundnesses so long as they may last, and it is for us to determine whether they are temporary or permanent. The degree of opacity within this area must be entirely set aside, as there is no opacity which can be seen by us that will not materially interfere with the rays of light, and therefore with vision. When we come to remember how frequently the whip is abused, we must be careful in noticing the cornea of the right eye more especially; and since we do not find the pupil fully dilated, we may safely allow that the eye is practically sound if the opacity is so near the margin of the cornea as the sixth of an inch, and is of long standing—that is, that it is not progressive. Should any cicatrix from wound or ulcer, no matter on what part of the cornea it occur, alter its convexity, then it is unsoundness; indeed, you should always look at the convexity of the corneæ; for if conical or too flat, we have not the means of rectifying the ingoing rays by lenses (spectacles); therefore such eyes cannot be considered sound.

The iris we have already partially noticed. Care should be taken to ascertain whether this important muscle is in proper tone. Excluding the light from the eye with both the hands, then suddenly uncovering the eye under examination, will determine the amount of tone the iris possesses. It should diminish and enlarge the pupil slowly and steadily, but obviously. Sometimes the "corpora nigra" hang more loosely than usual, or they may be actually torn. I have known several instances of hunters falling on their heads and displacing these little black bodies. When so displaced, the circumstance is not of importance in itself, but the blow which caused it may have displaced the lense, or even partially ruptured the capsule of the lens, when—the aqueous humour being admitted into that body—cataract results. This is the explanation of cataract suddenly forming after a severe fall or blow on the head.

The lens and its capsule next engage our attention. After the cornea they are of most importance.

Since the use of the ophthalmoscope has become general, the catoptric test is now no longer used by skilful surgeons in examining the lens, the oblique illumination and the mirror of the ophthalmoscope having quite displaced it. Although you may not be able to use an ophthalmoscope in its entirety, still you ought to carry one. The lens you use for oblique illumination, and the mirror part, with a light, can be employed by the most unpractised ; so much so, that frequently when I have been asked regarding the cause of "shying," and on examining the horse's lens with a lighted candle and the mirror part of the ophthalmoscope, have found the most minute speck of cataract, I have delighted the owner by allowing him to see that which has been the cause of the shying in this way. To use an ophthalmoscope efficiently, requires almost as much practice as it does to play the pianoforte, it being the most difficult to use of any instrument in the whole of surgery, not excluding the lithotrite ; but any one may use the mirror part at once. When doing so, any opacities of the cornea or lens appear as dark spots upon a bright red background. I need hardly say that any trace of opacity in either the lens or its capsule is an unsoundness which cannot be passed over.

Having got so far, and the eyes being found all right, we next bring the horse out of the stable, and, when possible, place him on level ground. During the next manœuvre—that of walking round the horse, and taking a general view of him—we have often to find fault with dealers' men for holding the animal with the head up, instead of their taking a long hold of the bridle or halter, and allowing the horse to have his head free. This is really important, for at this stage it often happens that we find blemishes which would render it unnecessary to continue the examination ; some of which blemishes may be concealed by the trick of holding up the head and frightening the horse into the attitude of "attention." In going round the horse at this stage, a practised eye soon finds a spavin, a fractured ileum, odd eyes, odd fore feet, and so many other things, that it is of importance to do this carefully, as we may frequently cut short the examina-

tion. Of the thousand-and-one blemishes, one or more of which we may now perceive, I have nothing to say at present; but it is at this stage one sees "shaky" fore legs, with or without broken knees. With regard to broken knees, we can dispose of the case quickly and without a second thought; but if, as often happens, we come across them when in other respects they are perfect, we frequently find a difficulty in deciding. I may here tell you that this trembling condition of the fore legs is due to a loss of balance in the tone of the extensor and flexor muscles of the leg; this may be congenital, or be brought about by overwork, or, suddenly, by over-exertion. In some cases, this loss of balance between the two opposing sets of muscles is sufficient to throw the knees forward, and give the fore legs a permanent bend. I have no doubt you will all have seen such cases in horses of unblemished reputation as hunters and as harness horses; but in these cases safety of the "forehand" is ensured by the limbs accommodating themselves to the altered circumstances.

Almost at any cover-side you may observe this bent condition of the fore limbs. I have frequently seen hunters carrying heavy weights while labouring under this, at all times, unfavourable condition; but when it may be looked upon as safe, the neck and shoulders are fine, the latter are "well back," and the legs thrown forward. In not a few of these cases you may learn that the horse has been so from the time he was a foal. Without signs of broken knees, you will be unable, and mostly unwilling, to condemn such as unsound. When, however, you find shaky legs, and upright clumsy shoulders, with or without a heavy "forehand," and without broken knees, you will have little hesitation in condemning the horse.

At our next meeting we will begin to review the second stage of the examination.

(*To be continued.*)

LAMINAL CONGESTION.

BY A. ADRIAN JONES, M.R.C.V.S., QUEEN'S BAYS, NEWBRIDGE.

I HAVE read with pleasure the remarks by Mr. Litt, in the *Veterinary Journal* for September, and concur with him that "Laminal Congestion" produces a particular kind of lameness often met with. I would, therefore, as the malady possesses some peculiar features, beg to be allowed to give the history of one of many cases that happened under my own observation. A half-bred hunter was purchased by an officer in my regiment, about November of last year. He was ridden constantly to hounds up to February of this year, when he became lame. Mr. Cuthbert, M.R.C.V.S., of Leeds, where we were then stationed, had kindly consented to do my duty, and was asked to look at the horse. He was of opinion that there was slight concussion to the foot, and ordered poultices. The lameness passed away in a few days; and thinking to give the animal a better chance, he ordered a slight blister to be applied around the coronet, so as not to admit of its being used for some days more. Unfortunately, however, the horse became worse, and on my return was so lame that it could only move on three legs. I made a careful examination with Mr. Cuthbert, and we concluded that it was suffering from foot lameness,—in fact, congestion of the laminæ. Cold water and repeated blisters were applied, but all to no purpose. The case, being now of four months' duration, became, to say the least, very annoying. Another opinion suggested that the periosteum over the seat of splint might be tight, and not allow splint to form. Although there was no indication of such taking place, I operated by dividing the membrane; but on the animal being moved, there was not the slightest improvement. The horse was extremely lame at a walk, whilst being led; but on being allowed to roam at will about the barracks, it would sometimes go so nearly sound that it was almost impossible to say it was lame, except when the toe was kicked against an inequality of the ground; then it would stand as if the leg was broken. There was *no heat, no tenderness, no pointing,* but *a slight resting,* and *no rings round*

the hoof. The horse had large flat feet, and there was that unmistakeable peculiarity of gait which is always present with foot-lameness. I fancied there was a slight flattening at the sides of the wall after six months.

On our marching from Leeds to proceed to Ireland, the horse was sent by train to Newbridge, and on my arrival there I was astonished to see it being ridden by the owner, and going quite sound. It has remained so ever since, and the feet have all the appearance of being very healthy, which would not have been the case had there been any inflammation of the laminæ. Flat-footed horses are most subject to this disease, but I would like to remark that I consider concussion to be the exciting cause, and a gross full habit of body and flat feet the predisposing influences.

With regard to the treatment of the affection, I find that an aperient dose and a poultice, with the removal of the shoe, generally assure soundness in a few days or a week.

THE EFFECTS OF CONSANGUINITY AMONG ANIMALS, WITH REFERENCE TO CATTLE DISEASES IN THE HIMALAYAS.

BY "HIPPO-CHIRURGUS," ARMY.

A RECENT *Allen's Indian mail* states that an "epidemic" has been raging among the cattle in the Simla Hill States, of so serious a nature that Government lately deputed a veterinary surgeon to inquire into it. We hear, continues the mail, he has reported that the disease is an "Eruptive Typhoid," and concludes, from internal examination of some of the victims, that long-continued breeding in-and-in is the cause; he recommends the introduction of new blood as the cure.

We imagine the veterinary surgeon's report cannot be precisely rendered or conveyed by the above condensed version, which apparently blames the system of breeding in-and-in with being directly responsible for the production of an epizoötic disease, and recommends treatment that cannot possibly be immediately curative. The cause here referred to must be

regarded as belonging to the predisposing class; whilst the effects of the remedy, which cannot be manifested for a considerable period after the commencement of its operations, must, necessarily, be prophylactic—tending to reduce the susceptibility to the reception of epizoötic and other diseases in future organisms, by improving their physical conditions.

In-and-in breeding, no matter how long continued, can never develop into a true exciting cause of disease; neither can the introduction of new blood, commonly called crossing, cure it; for their actions are too remote and inadequate. If the original report has not been strangely perverted, it is, to our mind, difficult to understand how an "internal examination of some of the victims" could afford reliable, conclusive, or even appreciable evidences of the insidiously deteriorating influence of "long-continued breeding in-and-in." To arrive at such a conclusion will have required a much more general and extended investigation than this, as regards both the victims themselves and the circumstances under which they have been and are living. Furthermore, past and well-authenticated data should be at hand with which to compare current events and phenomena; otherwise, deductions would be extremely ambiguous, if not altogether fallacious, and action founded upon such a basis can have but one termination. We are not aware of any record that attempts to discuss this system of breeding in the light that the Government veterinary surgeon regards it; but we feel sure few opportunities that would reduce its ill effects to demonstration are either rarely met with or rarely recognised.

Thus its consideration possesses a certain amount of novelty, and we hope to furnish a nucleus for an interesting discussion by publishing these remarks. In countries like our own, little or no necessity has arisen for the attention of veterinary surgeons to be directed towards in-and-in breeding amongst domesticated animals, as an accessory in the production of disease; and at the present time there is no cause for alarm as to its consequences. This, of course, is in a great measure owing to the sound and thoroughly practical discrimination observed in the selection of breeding stock. It was not by chance that Mr. Bakewell established his celebrated breed of sheep, though his

system of breeding was in-and-in; but by the most careful and judicious application of the principle that like produces like, and the avoidance of the union of animals too nearly akin. Wherever a superior class of animal is found, we may rightly infer that the rules of *selection*—in its highest sense—have been studied and strictly enforced. So-called "hits" are exceptions, which perhaps tend to prove the foregoing statement.

It is not improbable that among the cattle in the Simla Hill States, and most likely in other parts presenting similar physical, climatic, and hygienic features, in-and-in breeding has been going on indiscriminately—that is, without system—from time immemorial, and that the union of near relations, undirected either by natural or artificial selection, as we understand those terms, has gradually engendered an aptitude to physical degeneracy, thereby assisting to induce that particular "pathogenic condition or predisposition," requiring only the operation of an exciting cause to develop and evolve this Eruptive Typhoid epizoötic. So subtle are the actions of causes, that we do not expect any man could lay his finger on *the* exciting agent of an outbreak of this description, and affirm that if it had been absent, there would have been no disease. He would rather feel disposed to recognise a combination of causes, or group those that would be acting in concert; and in offering an opinion relative to them, would perhaps draw special attention to the most prominent one, which, though not of a proximate character, might be considered the root of the evil. His suggestions as to remedy would, of course, bear chiefly on that evil. This was probably the line pursued by the Government veterinary surgeon in framing his report. We ought to attach some value to the study of the principles of breeding, as professional men, and endeavour, by attentively considering their etiological influences, to determine how far the two systems predispose to disease under various circumstances, and then mark to what extent their substitution, suspension, or suppression need be carried as prophylactic remedial measures. If the veterinary surgeon be correct as to the cause, then the remedy advised, being very practicable, must prove beneficial in time; and it possesses the recommendation of being harmless, if its in-

fluence be arrested before it brings about the very results it is intended to obviate, which it might do by over-application. The outbreak in Simla is probably not the first of its kind there, and considering that the number of births exceeds that of deaths from ordinary causes—slaughter not being allowed either for human consumption to any extent, to extinguish disease, nor on the score of humanity—it seems almost necessary that something destructive to the life of cattle should happen periodically to keep down an excessive accumulation of an inferior quality. This idea is, however, open to question, and runs counter to the practices put in force when epidemics and epizoötics break out, though there are some ready to affirm that famine, cholera, measles (Fiji Islands), or other such-like calamities, are natural methods that periodically come into operation to reduce over-populated districts. But we cannot stop here to argue so abstruse a subject. Reverting to the effects of breeding, it is observed, that natural selection, when unmolested by accident or design, in a great degree protects the wild breeds from degeneracy, or modifies that tendency to deterioration which is so likely to happen where badly-managed domestication, and this of course includes ill-directed artificial selection, exists.

We cannot but admit that the in-and-in system—or in this case we prefer to call it *law*—predominates in most, if not in all, species of wild animals; and that this law, which is equivalent to natural selection, is the rule in nature. The system, therefore, of crossing is all but impracticable, excepting perhaps in creatures of a migratory habit, and in instances where man has the power of directing or regulating their union, as in zoological and similar collections. Every one knows that the grand object desired in either system of breeding in domestication, is to improve certain breeds for certain purposes: quality and quantity being, usually, collateral *desiderata;* that this is to be achieved only by a careful and judicious choice of animals to breed from, and that a misapplication of either system will assuredly lead to failure. The great difficulty here is to know when to arrest or suspend either principle for the other, how to carry out either to the happiest extent, without infringing on the other, or how to intermix both to produce a good effect. The

principles of crossing call for a more intimate acquaintance with their practical application, and experience in their results, as referring to our domesticated animals, than do those of the opposite system. We quote the opinion of an eminent cattle pathologist, taken during one of his lectures on this subject. He says: "It is a remarkable fact that a second cross produces deterioration. Select two well-formed pedigree cows, and put them to two good pedigree bulls, and we will suppose that one cow produces a male, and the other a female—both of which may be well formed and developed animals. Place these two products together, and the fruit of their union will be a calf of a class much inferior to that of its parents, and greatly deteriorated. Farmers are aware of this fact." (Veterinary surgeons should be also, if, in the course of their professional duties, they think it expedient to adopt "crossing" as a measure calculated to prevent disease which has been predisposingly induced by long-continued breeding in-and-in.) "Welsh ewes crossed with Leicester rams produce lambs better than the former, but inferior to the latter, which are very useful for feeding purposes. Advantage is derived by the first cross; but take the animals of this cross, and produce a second cross, and you will find considerable deterioration."

McCombie, in his "Hints on Breeding Cattle," says, "Breeding in-and-in has some advantages and many advocates. My experience leads me to take a middle course, and to keep in view both the one and the other. By adhering to it I found that quality was maintained and even improved; but size was reduced, and symptoms of delicacy of constitution were manifested. It may be pursued for a time, until type is developed; but to continue any length of time to breed *in*-and-*in*, is not only against my experience, but, I believe, against nature."

Our foregoing remarks will show that we do not agree with this last assertion.

The practice of breeding is full of intricacies and, we may almost say, uncertainties, which, however, should not exist to a very great extent, if it be true that "like invariably begets like." We have launched deeper into this subject than was our first intention; but coming back to this Eruptive Typhoid, we are

anxious to hear more of its causes—the general character and constitution of its victims—its progressive stages, its terminations under and without medical aid—its incubation, contagion, infection, etc.—the means employed in its extinction, suppression, and prevention. There is evidently something very interesting about the malady; therefore we trust the Government veterinary surgeon will publish his report, particularly the *post-mortem* appearances and pathological anatomy, for instruction and guidance.

Epizoötics are very prevalent in India, Assam, and Burmah, and there are recent accounts from these and other parts. In Rawul Pindee, we hear the Commissariat cattle have been attacked by epizoöties, and considerable inconvenience has arisen owing to the bullocks being unable to work. The services of army veterinary surgeons are often canvassed by the provincial civil governments, and the military government seldom refuses assistance. It is not very satisfactory, however, to mention that but very little practical good attends the investigation, advice, and instruction of those deputed to act. The very owners of diseased cattle thwart the efforts of the veterinary surgeon, though medical aid is gratuitously offered. Time after time have these outbreaks occurred, and there are few army veterinary surgeons who have served in India, who have not, somehow or other, dabbled in investigating their origin, etc. Report upon report has been written and published in the Blue Book, and this is about all that has and can be done. In most cases an epizoötic appears, and without any professional assistance being sought, runs its course and dies out naturally, so to speak. It would be interesting to hear the result of an experiment, conducted by Veterinary Surgeon John Anderson, R.H.A., whose services were placed at the disposal of the Oudh Government, to endeavour to suppress cattle diseases in that province, where Mouth-and-Foot disease, Pleuro-pneumonia, Cattle-Plague, and Malignant Sore Throat, prevail, to a greater or less extent, every year.

CONTAGIOUS PLEURO-PNEUMONIA IN IRELAND AND IN NORFOLK.

BY M. A. COX, M.R.C.V.S., ASHBOURNE, LATE INSPECTOR TO THE IRISH VETERINARY STAFF.

(*Continued from page* 189.)

IN the official report of the Irish Department, I find that the director says, "As a result of long, careful, and practical investigation between stock-holders and the veterinary authorities of Great Britain and Ireland, I am unable to discover reasonable grounds for the statement 'that animals infected with Pleuro-pneumonia are exported from Ireland.' This is an *equivoque;* we are in the dark as to these inquiries, and who conducted them; and consequently we have to take his *ipso dixit* for their value; and I should infer from the wording of this section that his report is founded, not on personal knowledge, but upon the statement of others. The second section states, 'that no animal suffering from this disease has been traced;' but this is qualified by adding 'within the usually accepted period of incubation;' and I notice that in another section he observes his experience leads him to fix it in some cases within a period of ten days. How convenient! This is a good loophole through which to escape a difficulty, and the responsibility can be easily moved from any inspector. I assert, in answer to this, that such cases are extremely rare and exceptional; and as data for fixing the incubation period, they are of no value whatever.

This section concludes by saying that every facility is offered for investigation.

It needs a pupilage to comprehend their system before any inquiry could be prosecuted that would evolve the true facts.

The statements made in sections 3 and 4 are accepted; they have been written upon and discussed by many of the practical cattle pathologists of this country.

Section 5 mentions the duration of the incubative stage, and questions the truth of three weeks being the shortest period. What authority gives three weeks as a fixed period? Those practically acquainted with this malady know that the latent

period is more frequently in excess of that time than under it; and that it must be reckoned a fortunate circumstance discovering instances in which *less* than ten days had elapsed between the reception of the infection and the development of the disease. In the cases referred to, it is not mentioned that the animals, when moved, had been in contact with affected cattle; it is inferred that they took the malady at that time, and on this frail foundation it is urged that less than ten days is the minimum of incubation. Perhaps we will next be furnished with the maximum period.

It is not discreet to quote statistics in favour of the health of cattle under the supervision of the Irish Veterinary Department; because I can affirm, and the fact is well known, that there are many cases of which the officials are ignorant; and untll the existing regulations are altered, this will continue. But were they all reported, we should find that stock is healthier in Ireland than in England.

With experience as an inspector in both countries, and a knowledge of both systems, I assert that the compensation clause is the boon most required; that, despite statements to the contrary, these cases would then be reported, or fat animals slightly affected might be slaughtered for food. These combined measures, with the employment of men who could distinguish between Pleuro-pneumonia and attacks of cold, would show the authorities that on this point they are in error. There can be no doubt as to the efficient organization of the police force of Ireland,—its members are, *par excellence*, the rulers of the land; but I have yet to learn that they can either discover or detect this disease; if they can, they are more able than their *confreres* of the veterinary staff, who are by superior authority placed under their control and surveillance.

Notwithstanding the vaunted efficiency of the police, numerous cases escape their notice.

(*To be continued.*)

THE SO-CALLED "TYPHOID FEVER" IN PIGS.

BY W. H. JONES, M.R.C.V.S., BRIDGEND.

As the diseases of pigs are at present so prevalent, and the mortality among them so great, I think the record of the following cases will not fail to be interesting to the profession :—

Case 1.—On September 6th I was requested to examine some large pigs, the property of a gentleman residing at Londu, about three miles from here. Previous to seeing them, he informed me that for some time past the mortality among the pigs in that district had been very great, the disease to which they had succumbed being hitherto unknown, and that the majority of them died suddenly. On making an examination of the pigs, I found that one of them presented an intensely red appearance of the skin, accompanied by great irritation. The redness was most distinct beneath the forearms, between the thighs, and behind the ears. The external temperature of the body was greatly increased, the animal showed an indisposition either to move or eat, a white frothy saliva was flowing from the mouth, and the creature had also a painful cough. After making an examination of the other pigs, and having satisfied myself that they were free from disease, I ordered their removal, and the pen previously occupied to be well cleansed and disinfected. I also recommended that good, but easily digested, food be given to the solitary occupant, but it refused to eat, and on September 7th had become so weak that it could scarcely sustain its own weight. I prescribed the following powders to be given in gruel twice a day :—

R. Ferri Sulp. . . 3i.
Pulv. Zingiber 3ii.
Pulv. Gentian . 3ii.

A cooling lotion was also applied to the skin, which greatly allayed the intense irritation. On September 10th the skin had lost its uniform redness, and had assumed a somewhat purple hue; though this only occurred in patches, the skin between them being of the normal colour. The bowels were now constipated, and the debility very great. For some days the animal was unable to stand, and had to be drenched with gruel, the

swallowing of which at times caused a considerable amount of coughing. On the 17th the pig began to show signs of recovery, and now partook of a small quantity of meal, mixed with boiled oats; at this period Diarrhœa set in, and continued for three days, but without any ill results. The animal from this date rapidly improved, and is now in a perfectly convalescent state

Case 2.—On the 12th of September, I was requested to see another pig, the property of Mr. R., also of Londu. The history of this case is as follows: Some six weeks previous to my seeing it, two pigs in the same stye were noticed to be ill, and exhibited the same symptoms as those described in Case 1. One of them in a few days died, while the other continued to struggle against the disease; for about ten days it was unable to rise, and continued to lie in a semi-comatose condition. It was allowed to take its chance, as the owner thought it would die; but after some time it appeared to get better, and would now feed a little; from this period it gradually recovered. At the time I saw the animal I was astonished at its pitiful condition. The skin was hanging loose in large pieces in different parts of the body, but more especially on the neck, back, and hind-quarters. Some pieces had become detached by the animal rubbing itself against the wood-work of the stye, leaving beneath very unhealthy wounds, one of which was more than seven inches long. The animal was cheerful, and was rapidly regaining condition; the only reason why I was requested to see it was because the owner could not cure the wounds. I prescribed carbolic acid and glycerine, one part to forty, to be applied daily. At the end of a week most of the wounds had healed, and at the present time the skin presents no abrasions, but has a particularly smooth touch, and there is an entire absence of hair, with which the animal was well covered previous to the attack.

(In a note the author of this communication says:—There appear to be two separate and distinct diseases, so far as I can judge at present; one being that described above, while the other is quite different: no "rash" on the skin, and the animals dying in from ten to twenty-four hours. Some of the latter are affected with paralysis, and others appear as if suffering from Chorea, like young dogs after Distemper.)

THE DIFFERENTIATION IN THE CHARACTERS AND SYMPTOMS OF GASTRO-INTESTINAL AFFECTIONS.

BY THOMAS WALLEY, PRINCIPAL OF THE EDINBURGH VETERINARY COLLEGE.

(*Continued from page* 245.)

Constipation.

The term "Constipation" is used indiscriminately to indicate two very different conditions, viz., *first*, the accumulation of hardened fæces within the intestines, from causes inherent in themselves, or introduced from without; *secondly*, the non-passage of fæces for a period of from fourteen hours to several days, and due to many and very opposite causes. The first is true Constipation, and is brought about by previous predisposition, as natural weakness or sluggishness, or previous disease, of the bowels; by improper quantities or quality of food, causing undue distension and partial paralysis of the coats of the intestines; arrested vermicular motion of the intestines from exhaustion following irritation as the result of medicines; extreme heat of the system generally, as in Fevers; the administration of agents which check the normal mucous secretions, or diminish the natural motion of the intestines—as astringent medicines, or, in young cattle, the young shoots of recently felled oaks in spring; want of exercise, as in dogs kept up in kennels, and fed on large quantities of bones; pet dogs not being allowed to go out of doors—many of these animals refusing to defæcate (even during illness) in the house; perversion or withdrawal of nervous force, from inflammation of any organ, or disease of the nervous centres; the influence of medicinal or toxic agents upon these centres; and in some chronic diseases of the liver.

Secondly, *retention*, which is:—*a.* Simple or temporary; *b.* Complicated or permanent.

a. Simple retention is brought about by animals being unable or afraid to place themselves in the necessary position for defæcation, as in Lumbago, Rheumatism, Peritonitis, Pleurisy, Lumbar Abscess, disease of the urino-genital organs; muscular,

ligamentous, or osseous lesions of the loins and hind-quarters; Piles, fissure of the anus, or the lodgment of spiculæ of bone in the rectum of the dog or cat. Whatever is the cause, the fæces lie in the intestines, the fluid portion becoming absorbed, and by the increased temperature the mass is dried, fresh accumulations constantly aggravating the evil, until finally the mass sets up irritation and inflammation, with their concomitant symptoms; and when the animal expels or attempts to expel it, or the hand or finger is introduced into the rectum, great pain and straining is produced, and rupture of the intestinal capillaries takes place, the blood from which intermixes with the mucus and coats the hardened fæces.

b. Complicated retention, or occulsion, may be partial or complete. It is symptomatic of mechanical obstruction to the outward flow of fæces, from a great variety of causes: as pressure on the intestines, and diminution in their calibre, from abnormal growths or enlargement of organs in their immedate vicinity or in their interior, as Polypi, cancerous growths, etc.; adhesion of the bowels to each other, to adjacent organs, or to the pelvic or abdominal walls. The accidental introduction of foreign bodies, as stones, bones, etc., in the dog, or accumulation of phosphates in the cloaca of the rectum of this animal; the swallowing of blankets, sheets, etc., by cattle; the matting or glueing together of the wool around the anus in lambs ("pinding" in Scotland), and of the hair in long-haired dogs; the lodgment of a calculus, hair or wool-ball in the intestines, or the accumulation of the fatty salts around the rectum in the ox;* the rolling together of masses of vegetable matter, as in young foals feeding on barley stubble: the best instance of which I saw in the practice of Mr. Kettle, the accumulation being removed (of an oblong shape), *en masse*, by us after the administration, at intervals, of ten drachms of aloes; the constriction of the rectum, by tension of the recto-uterine folds in twists of the uterus; intussusception, twist, strangulation, or hernia; dilatation, ulceration, and stricture of the intestines. In young animals it results from imperforate anus, or dilatation, and the accumu-

* I have in my possession a specimen of the rectum of an ox, the diameter of which is reduced to three-fourths of an inch from this cause.

lation of the meconium in the cloaca of the rectum; or from the want of cholesterine in the milk of the dam.

Constipation may continue for many days without material injury; this is sometimes observed in wheat poisoning in cattle, the lodgment of calculi in the horse, and of dry fæces in the dog; but under other circumstances it produces great constitutional disturbance, and if not relieved, becomes the exciting cause of inflammation of the intestines, and, by the straining which it induces, of fissure of the anus, piles, and *Prolapsus recti;* and in females, eversion of the bladder, and at the time of parturition, of the uterus, and parturient apoplexy. No matter what may have produced Constipation or retention, there are certain symptoms common to every form. These are: interference with the natural functions of the body, disturbance of the circulation and respiration; constant attempts at defæcation; colicy pains; slightly injected membrane, and pain on pressure externally; tympany, sometimes intermittent, but in the latter stages always permanent; gradually increasing size of abdomen, from accumulation of solid and fluid matter, and consequent dulness on percussion if there is no tympany; vomition in the pig, dog, and cat, and retention of urine, if the occlusion is rectal. The abdominal pain accompanying retention or Constipation is shown in a variety of ways in the different animals. In the dog, especially if the obstruction is in the large intestine or round the verge of the anus, the pain is characteristic, and is evinced every time an attempt is made (and this is frequent) at defæcation, by turning of the head to the anus, licking the anus, and drawing it along on the earth or floor, screaming, whining, and making circular movements. Careful external manipulation, and digital rectal exploration, nearly always afford positive evidence, and any person knowing the situation of the abdominal organs should be able to detect at once, by the former, any abnormal enlargement of the intestine.

In the larger animals, external manipulation cannot be practised with certain benefit, except in so far as the detection and localisation of pain is concerned, or in cases in which the obstructions are large; but exploration *per rectum* must never be neglected, as it will often afford positive evidence. Thus any

tumour, abscess, or other enlargement pressing on the rectum in the lumbar or pelvic regions, will be at once detected, as will also impaction of the colon and the presence of obstructing bodies in the rectum. In the foal to which I have before referred, we were enabled to feel with the hand the mass of aggregated barley stubble. On one or two occasions I have been enabled to feel a calculus through the coats of the rectum; and I have a calculus weighing eighteen ounces, and measuring twelve and a-half inches in its greatest diameter, which the practitioner in attendance was absolutely enabled to touch with the tips of his fingers, but could not bring sufficient force to bear upon it to dislodge it, consequently he had to wait until the effects of a strong cathartic caused its expulsion. The tolerably positive symptoms of occlusion by *calculi* in the horse are: pain, usually moderate and intermittent, the animal feeding and drinking in the interval, and looking lively; the mucous membranes are not much injected, counter-irritants act freely, non-retention of enemata, rectal temperature not much increased, and perspiration only during pain. The animal may live for days without much variation in these symptoms, unless extensive inflammation supervenes; but this, as a rule, does not happen. The inflammatory process seldom extends beyond the seat of impaction. Death is caused by inflammation in the usual way, when it supervenes; otherwise it is brought about by interference with the normal functions and exhaustion.

Particular conditions of the Intestine referred to as producing Constipation or retention, with their more positive Symptoms.

Intussusception results from violent spasmodic contraction of the longitudinal order of muscular fibres in a determinate direction, usually from behind forwards. Any part of the intestinal tract, except those which are fixed, may be the seat of the lesion, and several invaginations may occur in the same animal simultaneously. It is most frequently seen in the dog and pig, and is a concomitant of Rabies. The drawing which I exhibit (fig 33) represents invagination of the colon of a dog, through the ileo-cæcal valve into the ileum, several other portions of the intestines being also invaginated. I am not conversant with any diagnos-

tic symptom of intussusception, except, notably, and very rarely, in those cases in which a portion of the cæcum enters the colon, sloughing of the invaginated intestine taking place, and becoming expelled *per anum* some days subsequently.

Torsion of the Intestine.—"Twist," properly speaking, cannot take place in those portions which are fixed to the spine, and, so far as my experience goes, usually occurs in the colon, cæcum,

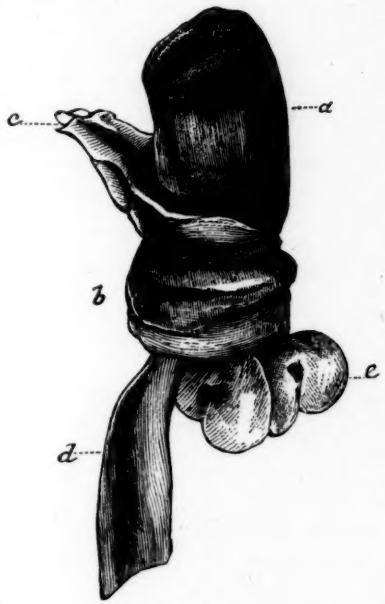

FIG. 33.

Intussusception of the colon (*a*) of a dog, through the ileo-cæcal valve, *b*, into the ileum *c*, due to Enteritis. The ileum is laid open to expose the colon, the intensely congested, blackened, and tumefied condition of which contrasts most markedly with the normal state of the bowel at *d*, the colon, and at *e*, the cæcum.

and ileum. It is caused by the animal rolling, or struggling when entangled in the halter or straw, when the intestine is full of ingesta, or by the powerful contraction of the intestine in spasm; and in some cases absolute, or even partial, twist does not occur, one of the courses of the colon being simply displaced or thrown, as it were, across the others; this will sometimes hap-

pen from distension of a knuckle of intestine with gas. Torsion may be complicated with rupture of the mesentery and herniation, or with rupture of the intestine itself. The ileum is most subject to mesenteric hernia, and the causes which predispose to it are the existence of tumours attached to the external surface of the intestine or the lodgment of any heavy foreign body, or growth of a tumour in its interior. Previous rupture of the mesentery is also a predisposing cause. In "gut-tie" in the ox it is brought about by previous rupture of the pelvic fascia between the shortened vas deferens and the lateral wall of the pelvis, or rupture of the same fascia simultaneously with the herniation and strangulation.

"Twist" may be partial or complete. 1. *Partial*, where the organ is turned only half round; 2. *Complete*, a, *single*, or twisted once round; b, *double*, or turned twice round.

Hernia may be also simple or complicated. 1. *Simple*, when a knuckle of intestine filled with solid food, or having a tumour attached to it, or a foreign body in its interior, passes through a rent in the mesentery; 2. *Complex*, when the herniated intestine becomes tied, as it were, in a complicated knot.

When torsion is partial and hernia simple, the strangulation of the vessels is incomplete, and, as a consequence, neither much congestion nor inflammation is set up in the part. The pain is subdued, the temperature but slightly increased, the visible mucous membranes very little injected, the circulation and respiration not at first much interfered with, the bowels are completely obstructed, and the animal may linger on for four or five days, death resulting simply, as before mentioned in speaking of constipation, from interference with the normal function of organs and exhaustion. Resolution of partial twist or simple hernia may take place during life by the movements of the animal itself, but in those cases where all the intestines are overloaded with solid food, the twisted organ becomes squeezed to such an extent against the diaphragm as to preclude the possibility of resolution, except after death, through the movements of the carcase in loading and unloading, or by the pressure of the gas in its interior, all opposition by the contraction of the muscular coats being now removed. On *post-mortem*

examination, should resolution have taken place, the site of the twist can always be determined; as the intestine, when pressure is removed, tends mechanically to return to the position it assumed when twisted, and the indentations of the twist are plainly impressed upon its coats.

When torsion is complete and complicated, the strangulation of the vessels is perfect, and as a consequence mortification sets in very rapidly. The involved portions become œdematous, black in colour, and friable. The superficial lymphatics are enormously distended, and there is effusion of serum into the peritoneal cavity. Resolution is almost impossible. The symptoms are extremely aggravated, and death usually closes the scene, where there is "twist" of the colon, in a few hours—sometimes five or six; and where there is mesenteric herniation of the ileum, in from twenty-four to forty-eight hours.

(*To be continued.*)

THE TRASMISSIBILITY OF LEPROSY.

It would appear that the loathsome disease of the human species—Leprosy, is not unknown in this country, and that it is apparently on the increase. From the facts which have been up to the present time accumulated with regard to this malady, there is reason to believe that it is communicable, though the latent period is very long, and certain special conditions of the body are required for the development of the virus. Professor Laycock, who has written a very interesting paper on the subject in the *Edinburgh Medical Journal*, commenting on this point, remarks: "The more frequent occurrence of Leprosy in Great Britain will afford our experimental physiologists opportunities of determining whether the disease can be communicated to lower animals or not. It is, however, an inquiry the cost of which should be borne by Government or the public. Domestic animals, like swine and cattle, would be the proper subjects of experiment, and not small animals like guineapigs and rabbits. As the animals infected by leprous products would necessarily have to be numerous, and have to be watched over a series of years, it is plain that private effort cannot be available."

Should Leprosy not be capable of transmission to animals, this negative fact could not be accepted as a proof that it is not communicable in mankind. Cholera, Typhoid, and some other human disorders of the zymotic class, cannot be transmitted experimentally to the lower animals. Should it, however, be sucessfully transferred to them, it will still further swell the list of inter-transmissible diseases, and perhaps aid us in arriving at a better knowledge of the pathology and curative measures necessary to contend with a most formidable and disgusting scourge of the human race.

Editorial.

THE INTRODUCTORY ADDRESS AT THE ROYAL VETERINARY COLLEGE.

THE custom which necessitated the delivery of an introductory address in each of the medical schools at the opening of the session is happily dying out—gradually, but surely; and before long we shall be able to look upon them as things of the past, which perhaps offered some advantages in their day, when teachers had less to teach and students less to learn, and when time altogether was of less value than in the busy work-a-day world in which we now live. And yet their disappearance from the annual course will be looked upon with regret by some who may remember what eloquence, what learning, what profound observation, what valuable advice, and what inspiring encouragement to the youthful aspirant, were unfolded in the class-room on the first day of the session. The younger teacher called upon to give the introductory, would expatiate upon the great achievements of science, the newest developments of medicine, and the glorious future in store for the earnest workers; the more staid lecturer would perhaps assume a sober style of address, and dwell particularly on the realities and responsibilities of professional life; while the hoary-headed apostle of medical science, grown old and grey in the midst of a busy life crowded with anxieties and mental and physical toil, would give a loving, genial, and instructive discourse on the past, embellishing it with many wise saws and precepts more valuable than fine gold.

The veterinary schools have, of course, followed the example of the medical schools in the matter of introductory addresses. The occasion gives an opportunity for saying that which, whether relevant or not, could scarcely be introduced at any other time. The purport of the address may be perfectly foreign to the educational objects and functions of the establishment, of no possible interest to the students, but rather calculated to give

them false and pernicious notions on matters which, at their stage of existence, they have no business with, at the same time robbing them of one or more of the valuable days included in the few months attendance required to make them veterinary surgeons.

It will perhaps be well for our educational institutions to follow the example of the best medical schools, and allow the custom to which we now allude to lapse. It is rare indeed that anything is said regarding our science, which has not been as well, if not better, said before.

These remarks are called forth by a perusal of the address delivered at the Royal Veterinary College on the opening day of the present session—an address which, however intended, is eminently calculated to mislead those who cannot read the motives which prompted its delivery, and is of a nature to cause disunion and discord. So far as the political allusions in it are concerned, it strengthens our belief that until the old generation of teachers has disappeared, there is no hope for the prevalence of enlightened and unselfish views with regard to our requirements.

The political allusions had particular reference to the other veterinary schools, and their multiplication "on opposite grounds to those of honest competition;" whereby the education of the student is, we are told, "less perfect than it would otherwise be, and the prescribed period of study not so strictly enforced," "besides which, the matriculation examination is far less stringent than desirable." We are also informed that competition has not merely been the policy of the London school, but its practice, and that by honest rivalry and continuous improvements it is now everything admirable. Reference is also made to the blunders, mismanagement, and general shortcomings of the Body Corporate, and about the futility of its attempting to obtain a supplementary charter.

With regard to the disparaging remarks relative to the other schools in the matter of competition, they come with a very bad grace from an institution which is not a whit more advanced in its tuition than they are; which has competed with them, and now competes, on the lowest terms; which for years has per-

sistently continued, and now continues, to oppose every movement that has for its object the improvement of the student's education, and through this of the profession generally—improvements which the other schools are anxious to forward, and some of which they have already inaugurated. In proof of this let us but refer to the practical examination of the students, which was strenuously opposed by this school, and every obstacle thrown in the way of its adoption. Witness also the present uncompromising opposition to an extension of the period of study for the student, and the highly to be commended proposal that the examinations be held twice a year. The other three schools have signified their assent to these important beneficial alterations; it is only the London school which sets its face against improvement and advancement. For more than eighty years it has existed, and whatever improvements have taken place in veterinary science in later years, have been effected either in opposition to it, or without its assent. In its earlier years it maintained veterinary education at the lowest possible standard, and whatever blame is to be found with regard to our present position must be laid at its door. In the matter of school competition, it is not a whit less culpable than other schools; and with regard to the matriculation examination not being strictly enforced at these, how do we know that it is strictly carried out at this school?

But the depreciating competition of the London College does not end with the other teaching establishments; the institution competes with its own graduates, and underbids them to an extent which would elicit universal condemnation from every member of the medical profession, did any of the medical schools dare to venture on such a course. From its commencement to the present time, the Royal Veterinary College has been nothing more or less, notwithstanding its Royal patronage, than a commercial venture. It has existed mainly on subscriptions; and each subscriber of TWO GUINEAS, we are told, is entitled to have admitted into the infirmary of the school, for medical or surgical treatment, an unlimited number of horses or other animals *at a charge only for their keep;* he has also the privilege of being *supplied with medicine at a low charge;* and to have the opinion

of the Professors, *without the payment of a fee,* as to the medical treatment of any animal brought to the college, which he may still desire to retain in his own possession ; he is further entitled to have *twenty horses examined,* either before or after purchase, *as to soundness,* in the course of a year, and to receive the opinion of the Professors thereon, either verbally or in writing, *free of charge.* A subscription of TWENTY GUINEAS entitles the subscriber to all the privileges of the institution, as a general veterinary establishment and hospital for animals, *for life.* And yet this astounding scale of charges is designated *honest rivalry and competition !* There are now nearly six hundred subscribers, and these are all wealthy people, who can well afford to pay the usual practitioner's charge ; so that it will be seen at once that the existence of the school mainly depends upon depriving the members of the profession of a large portion of their practice, and undertaking to do it for next to nothing. Did this subscription system benefit the pupils, by affording them the opportunity for studying disease and practising the proper method of detecting unsoundness or performing operations, something might be said in mitigation of such a discreditable competition ; but we are assured that this rarely happens. Hence the want of practical knowledge which has distinguished the students of this school, and made them often compare unfavourably with those institutions which did not compete with the private practitioner, but, on the contrary, admitted the animals of poor persons for treatment, like medical hospitals, and in this way benefitted the people as well as the students.

Take away these subscriptions, which deprive the practitioner of a large share of legitimate practice, and the London school would have as little as the Scotch schools to live upon, and perhaps do less with it.

Whatever shortcomings and errors are to be attributed to the Royal College of Veterinary Surgeons, may truthfully be ascribed to the London school. If our charter is, and has been, defective, who is to blame ? We find the names of two of the teachers of that school, both Principals, in the charter, and we fail to discover that either of these gentlemen ever proposed any remedy for these defects. If the Royal College has done little or nothing

to forward the interests of the profession as a body, this must be ascribed to the London school, whose influence on the Council has been so overwhelming and so partial, that it has been asserted, we will not say with how much truth, that our Corporation has been nothing more than a mere appendage to the school. At the present time no fewer than four of its teachers are on the Council, and several of the other members have been nominated by these teachers. In fact, the influence for good or evil of the school has been paramount at the Council meetings; so that whatever disruptions, negligences, conflicts, and other *lachés* pertain to the Royal College must be largely attributed, if they have not been altogether due, to the school influence. This influence it has all along exerted for its own aggrandizement, until it saw, as we imagine, an opportunity for throwing the Corporation overboard altogether, and usurping its place. Happily, for the present this attempt, notwithstanding the secrecy which marked its inception, has failed, and now that the profession is beginning, though rather late, to look into its affairs, and knows whom it may and may not trust, other attempts in this direction are not likely to be more successful.

Of course, great things have been said within the college walls about the charter it has obtained in the manner above alluded to. It has been universally condemned outside the school; therefore its very few promoters are driven to say all they can for it inside. Well, we can only say, if they are satisfied with the expensive morsel, which has perhaps failed in being so complete as was contemplated, no one can grumble. Nevertheless, we cannot help thinking that if the large sum of money expended upon it had been devoted to the abolition of the heavy expenses imposed upon the students in the matter of private classes, after they have paid the advertised sum for instruction, a real benefit would have been conferred. Everything it proposes to do now could have been done at any time without a charter, and there is nothing to prevent the other schools doing as much without an instrument of this kind, should they care to share in degrading the granting of degrees and honours to the depths of ridicule. It is impossible to help remarking, in this respect, the temerity of a school which has for years opposed, and is now opposing,

every attempt at improvement, which has kept veterinary science at the lowest ebb, has competed with the private practitioner and the other schools on the meanest terms, has openly or covertly tried to discourage or stifle individual efforts, has behaved disloyally to the Royal College of Veterinary Surgeons, and would to-morrow demolish it if it could, now coming forward as the *University* of the profession, and endeavouring to throw dust in our eyes by promises of "honours sown broadcast." We must remember all this, and we must also recollect that this school is only one of the four recognised by the Body Corporate, and has no prescriptive right or claim whatever to consideration beyond these, which have behaved loyally and acted openly and fairly, and are now ready to adopt most essential reforms which the London school protests against.

What is the value of the proposed honours with which we are threatened? They do not confer a single privilege; they will not be recognised by the profession as of any value, because they are bestowed by a school which has done all we have said, which in no respect whatever is a university or represents professional feeling or sentiment, but has for years kept itself rigidly aloof from every movement initiated by those without its walls, and is now looked upon with suspicion and distrust. To those who may be tempted to accept these honours, they may remind them of the history of the charter and the way in which it was sought to be procured.

Selfishness has been the ruling motive in its obtainment, not the welfare of the entire body:—

"For mine own good, all causes shall give way."

The school constitutes itself our University, and leaves the other schools, many of whose *alumni* are among the most distinguished in the profession, out in the cold. And when the Body Corporate moots the question of a supplementary charter which will generously embrace all the schools in its substantial benefits, the address tries to stifle it by an old *ruse* and brings its own instrument forward. "Something has been said about the Council obtaining a supplementary charter, to enable them to bestow honours on members of the profession. This is a matter which

requires deep consideration, and *to us it does not seem that the time has arrived for such an effort to be made.* . . . We offer no objection to such a charter; *but it must be remembered that to a great extent it is superfluous. The charter of this Institution possesses university powers in the bestowment of professional honours.*" This is the keynote of the address, which only gave a very one-sided aspect of school affairs. It did not tell us that, for the first time in the history of the school, it had come into collision with the entire body of the profession, and had lost the confidence and countenance of every good man in it; that it had alienated those whose greatest sacrifices in life have been made in an unselfish desire to elevate veterinary science; and it did not say that, for the first time in its annals, it had severed its connection with the Royal Agricultural Society, and sent it a begging upon the world, at a time when other veterinary schools have been drawing closer the bonds between them and Agricultural Science.

We shall not allude to the pillar of science which is said to have received its capital within the walls of the school, or to the magniloquent language in which its supposed victory over the profession and its own great deeds is couched. If we look at the matter seriously, we will find that a more disastrous year for the Royal Veterinary College is perhaps not to be found in its records, and it well behoves the Governors to inquire personally into the cause of this; as if things are allowed to go on as they have done, these disasters will assuredly be increased.

Let us add, that in all we have said and hinted, we entirely except and exonerate the Governors of the Royal Veterinary College.

INSPECTING VETERINARY SURGEONS IN INDIA.

CAN any one understand on what system the appointment of inspectors to the Army Veterinary Department in India is founded?

There are four of these much-coveted appointments, viz., two in Bengal, and one each in Madras and Bombay; and for the establishment of these on a permanent footing the Department should feel ever grateful to the late Commander-in-Chief in India, Lord Sandhurst.

The value of each Inspectorship is estimated at about £1600 per annum, and they are rightly considered to be about the only prizes in

the Army Veterinary Department. As they are tenable for five years only, a healthy emulation would be excited if they were allotted with any show of reason or justice.

But it will be found, on looking into the subject, that the appointments are reserved and filled, for the most part, by a favoured few of the old local Indian army, men whose names are not in the imperial list as army veterinary surgeons.

When the amalgamation of the Indian with the Imperial army took place after the mutiny, the veterinary surgeons of the former were given the option of amalgamating with the latter, so as all to appear in one list for general service. This the majority refused to do, for reasons best known to themselves. At the same time their occupation was abolished, for the cavalry was transformed into irregulars without veterinary surgeons, and the artillery was absorbed into the British Establishment. So that the local veterinary surgeons now only hold on until they gradually disappear by retirement or otherwise.

During the mutiny, and subsequently, the establishment of British cavalry and artillery was greatly increased; and in order that proper veterinary supervision should exist over them, "inspectors" were created. One would think there was here a strong *primâ facie* claim in favour of the Queen's veterinary surgeons to the appointments.

The difficulty in the medical department was got over by the establishment of a separate *local* service, quite distinct from the British Medical Service in India. But there is no real local veterinary service; what there is exists only on sufferance, until its few remaining members are disposed of.

Instead, however, of this being a calamity to those in it, it has turned out a blessing, far beyond what they could have expected when the change took place; for they now step into these inspectorships, and the Queen's veterinary surgeons (for the supervision of whose charges they were in reality created) go to the wall.

The number of local men has dwindled down to some eight or ten; whereas the number of the Queen's veterinary surgeons serving in India is about seventy. Yet, as before stated, the inspectorships are held almost exclusively by the former. And what is equally strange, these officers own no allegiance to the principal veterinary surgeon of the army. So that we have the odd spectacle of about half the total number of veterinary surgeons in the army serving under the orders of inspectors, who are independent of each other, and totally independent of the veterinary head of Her Majesty's forces!

Any one who has served in India knows how jealous the officers of the old Indian army generally are of what are called *Queen's* officers; and each branch and department has had to fight this battle out. As the local veterinary surgeons must of necessity serve exclusively in India, they readily obtain local interest and support from constant association; whilst a stranger newly arrived from England receives the cold shoulder, and snubs and slights. Nearly four years ago, two staff veterinary surgeons were sent out to India to take up inspectorships which legitimately belonged to them. It is pretty well known in the Depart-

ment how they were received. One of them to this day has only been posted to an acting appointment. At the present time three out of the four inspectorships are held by local veterinary surgeons.

It is true that several of these officers have done many years' good service in India; but there are semi-civil appointments which, from their experience of the country, they are well adapted to fill, such as the studs, cattle inspectors, special duty, etc., sufficient to afford suitable employment for men in their position.

But even taking the view that it would be hard to debar them entirely from the inspectorships, yet on what ground of fairness to the seventy Queen's veterinary surgeons are the eight or ten local men allowed to monopolise three out of the four inspectorships amongst themselves?

The British Medical Department, years ago, took very good care to protect its own interests in the parallel case. As some of these inspectorships are about to become vacant on completion of five years' tenure, it is to be sincerely hoped that a just consideration may be shown to the Queen's veterinary surgeons serving in that country. But from what has been said, nothing is to be expected in this direction from the authorities in India. The nomination of the officers should rest, as in the Medical Department, with the Home Authorities.

Army veterinary surgeons are, as a rule, a long-suffering class; the prizes before them are very few, and promotion is exceedingly slow. There is a good deal of discontent in connection with these appointments, and it is high time that an understanding was come to with the Indian authorities.

The following will show how they have hitherto gone:

Hurford.....	*Queen's.*	Liddall.....	*Local.*
Collins	,,	Johnston ...	,,
*Thacker.....	,,	Dawson ..	,,
		*Hallen.....	,,
		*Turnbull ...	,,
		*Holloway ..	,,

* Those marked with an asterisk are the present holders of inspectorships.

THE GERMAN VETERINARY COUNCIL.

We learn from the *Wochenschrift für Thierheilkunde und Viehzucht* for 1874, and also from the *Annales de Méd. Vétérinaire*, that, on the proposition of the Veterinary Society of Munich to create a Central Veterinary Council, and to render this as useful as possible for the advancement of social and rural economy, twenty-one delegates appointed by the different veterinary associations in Germany met at Berlin on the 13th of April, under the presidency of Professor Feser, of Munich.

After framing rules, the meeting proceeded, in conformity with one of these (4), to the nomination of a permanent committee. Professor Dammann, of Eldena, was voted president of this committee, with Adam

of Augsburg as vice-president, and Köhne, Feser, and Prietsch as members.

At the sitting on April 14, the Council accepted the following propositions :—

a. Veterinary Studies.—1. The prescriptions relative to the examinations for the grade of veterinary surgeon, dated September 25, 1869, do not assure to the country a veterinary corporation composed of members sufficiently instructed with regard to science and practice; though such an organisation in the different parts of Germany is greatly required.

2. It is urgently necessary that the regulations relative to the examinations and veterinary teaching should be revised; and that (α) a more extensive and liberal education should be required before admission to veterinary studies; (β) that a much longer period should be devoted to these studies;* (γ) with regard to special studies, a deeper knowledge of the natural sciences is above all necessary; (δ) that none should be allowed to present themselves for examination but those who have made a complete study of veterinary medicine.

3. The German Veterinary Council has, in addition, decided that its permanent committee is charged with the duty of submitting the preceding resolutions to the Chancellor of the Empire, and to solicit him to cause the prescriptions now in force with regard to the examinations to be revised.

b. Central Veterinary Administration of the Empire.—1. The organisation of a veterinary section for the whole of the empire, and depending directly on the Chancellory, is necessary if it is desired to obtain: (α) useful and complete statistics of the panzoötic diseases; (β) an elaboration of the Civil laws, and those relating to the sanitary police, in accordance with the actual state of veterinary science; (γ) an uniform and satisfactory execution of all the measures of sanitary police provided by the legislation of the Empire; (δ) an examination and satisfactory appreciation of all the veterinary affairs submitted, conformably to the constitution of the Empire, to the jurisdiction of the Chancellor; (ε) a system of observation and experimentation, with a view to a more profound study of panzoöties; (ζ) an international veterinary sanitary police regulation.

2. The permanent Committee is charged to transmit this decision of the Council to the Chancellor in whichever way it may be convenient, and to solicit the creation, for the Empire, of a *bureau* of Veterinary medicine, independently of the projected sanitary administration *bureaux*.

The Council also decided that a proposal emanating from Feser, Adam, Berner, and Köhne, relative to the organisation of the official veterinary *personelle*, shall be in its entirety reproduced in the summary of the terms of the preceding resolution.

* If we mistake not, in Germany they already occupy three years' attendance at college. In England the period of study at a veterinary school is, altogether, about one year!

THE MONTREAL VETERINARY COLLEGE.

DURING a recent discussion at a council meeting of the Royal College of Veterinary Surgeons, some surprise was excited at the mention of a veterinary college being in existence in Canada, and perhaps a few of the members of council were rather incredulous as to its occupying the position of a respectable school. This is scarcely to be wondered at, as the sources of information the profession had hitherto possessed with regard to matters pertaining to it beyond our own shores—and even within their limits—have neither been numerous nor well calculated to afford instruction.

That there exists a veterinary college at Montreal there can be no doubt whatever, and that it has been open for instruction for eight sessions is vouched for by the prospectus for 1875-76, now before us. Not only this, but we find that, in some respects, the college is in advance of the teaching establishments in the mother country.

The Montreal Veterinary College was founded in 1866, by the present Principal, Professor McEachran, who is a member of the Royal College of Veterinary Surgeons. It is established in connection with the medical faculty of the McGill University, and is under the patronage of the Canadian Council of Agriculture. Owing to the success of the school, it has become necessary to afford increased accommodation; and the Council of Agriculture, appreciating the benefits already conferred, and anticipating still greater advantages, has liberally increased the grant it had already bestowed, and guaranteed its continuance for ten years.

Lectures on botany, chemistry, and physiology are given at the medical college of the University,—and this is an advantage to the veterinary pupil: an advantage acknowledged in Russia and some of the Continental states, in which the veterinary tuition is conducted at the universities. The prospectus of the Montreal school says that "this arrangement is the best possible in the interest of the veterinary students, enabling them to enjoy the advantages of having lectures on these important subjects by professors of a medical college of the highest standing, and illustrated by collections of models, diagrams, and scientific apparatus of the very best description."

The lectures on botany and zoology are given by Professor Dawson, Principal of the University, and appear to be thorough; the "Institutes of Medicine," comprising histology, physiology, general pathology, and therapeutics, are conducted by Professor Osler, of the University. Chemistry is taught by Professor Craik, and we are informed that inorganic chemistry is fully treated, while a large portion of the course is devoted to organic chemistry. Professor McEachran teaches veterinary anatomy, as well as veterinary medicine and surgery, and Professor Bruneau veterinary materia medica. The course of instruction appears to be very complete, the practical portion is not neglected, and the period of study extends to *three* sessions of *six months* each. At the termination of the first session the student passes an examination in

botany and zoology; after the second session, chemistry and physiology are the subjects for examination; and the final examination comprises anatomy, materia medica, and veterinary medicine and surgery—including equine, bovine, and canine pathology. The first and second examinations are conducted by the medical college, and the final test by a board appointed by the Council of Agriculture.

The Grand Trunk and other railways have made arrangements by which students of the University are granted return tickets from Montreal to any part of their lines at greatly reduced rates, the tickets to hold good from the close of one session to the beginning of the next; while they grant return tickets for the Christmas vacation.

We have thought it might interest our readers to learn this much of a veterinary college which, established in one of our oldest colonies, and presided over by a member of our own body, bids fair to advance the branch of medicine it inculcates in a manner certainly not behind the requirements of the age. And it must not be forgotten that Upper Canada has also an excellent Veterinary School at Toronto, presided over by Professor Smith. The advantages such institutions may confer upon our North American possessions are very great. Their chief wealth must always consist in cattle, horses, sheep, and other domesticated animals, and the health, multiplication, and improvement of these will, of course, mainly depend upon the knowledge brought to bear on their behalf. This knowledge it should be the special province of Veterinary Colleges to disseminate; and in a region with almost limitless, and as yet unreclaimed, pasture land, there can be no doubt that a brilliant future is in store for the Canadian schools—provided always, of course, that they maintain a high standard of education, and send out graduates imbued not only with a deep sense of the importance of their calling, but competent by scientific and practical knowledge to promote its advancement and enhance its value.

GLANDERS IN AUSTRALIA AND INDIA.

In preparing our work on Veterinary Sanitary Science and Police, a patience-trying portion of the heavy task was that relating to the *geographical distribution* of the principal diseases. This cost us an amount of labour which is by no means apparent when the results are looked at. Glanders was one of the contagious maladies that gave rise to much inquiry, as, owing to the very small number of British veterinary surgeons in our colonies who assist in adding to our literature, there were very few facts to enlighten us with regard to its existence or absence in certain regions of the world.

For India, we were informed by an excellent authority that Glanders had not yet been recognised there, except as an imported disease, apparently generated on board ship, and among Australian horses (vol. i. p. 479). This statement appears to have caused some anxiety in Australia, and we find a correspondent in the *Journal*

of the National Agricultural Society of Victoria, for last June, inquiring for information on the subject; also the rate of mortality among horses shipped for India, as well as the chief causes of sickness or of death in transit.

We have much satisfaction in publishing the *Editor's* reply, as it is interesting, and will be of value to others, perhaps, as well as ourselves. He says: "The average mortality from sickness is about five per cent. The chief causes of sickness and death arise from Strangles, Catarrh, Pneumonia, Influenza, Enteritis, etc. Glanders has never been known to develop on board ships carrying horses from Australia to India, nor has it ever been met with here, as far as can be ascertained. It is a very common disease in India. We have met with many cases in Bengal, where a number of horses are destroyed annually, suffering from this incurable malady either in man or horse. A shipment of Australian horses were last year placed in quarantine at Madras, suspected of being glandered, in consequence of a groom suffering from Syphilis stating that he had caught Glanders from the horses. This rumour may have been the means by which Professor Fleming has been misled, when he states that this disease is generated on board ship, and among Australian horses."

We are much obliged to Mr. Editor for everything in the above satisfactory response, except the title of "Professor," to which we do not aspire.

THE RELATIONS BETWEEN VETERINARY SCIENCE AND AGRICULTURE.

In a masterly and eloquent address recently delivered by M. Heuzé, Inspector-General of Agriculture, to the students at the Alfort Veterinary School, on the occasion of one of the State farms having been annexed to that establishment, the history of agriculture was traced from the earliest period, particularly in France; and its progress from a rude primitive condition up to the present time, when it has attained such a state of perfection, was lucidly described. Due honour was paid to Bourgelat, the illustrious resuscitator of Veterinary science in Europe, and the founder of the National Veterinary Schools in France; reference was also made to the wonderful influence he exercised on Veterinary medicine, no less than on agriculture, by establishing the Lyons school in 1761, through the far-seeing policy of Bertin, Prime Minister under Louis XV., and the splendid school at Alfort in 1766. In alluding to this event, Heuzé said, "The creation of the schools of Veterinary medicine was an event in Europe. In 1761, France had only schools of human medicine, and did not yet understand the necessity for possessing special schools relative to agriculture or to industries. There is nothing astonishing in this. At the time when Bourgelat thought it useful to reform hippology, agricultural France read little, and followed the methods adopted from time immemorial, without

inquiring if others more rational could exist. It is true that it possessed the *Théâtre d'Agriculture* and some other agricultural works; but these books were but little read, and they were unknown to the gentlemen who played *à la pastorale* in the gardens of Chantilly or Versailles." Referring to the writings of Oliver de Serres, the author of *Mesnage des Champs*, *Maison Rustiques*, and the *Discours Admirables*, and of Bernard de Palissy, as well as of Duhamel de Monceau, who, inspired by the ideas of our own countryman, Tull, gave France his *Elements d'Agriculture* and the *Traité sur la culture des Terres*, he pointed out the prejudices existing in that age against improvements in the cultivation of the soil, and the rearing and management of useful animals: farmers in those days being evidently imbued with the Catonian maxim, *Ne change pas ton soc*, and were always tenacious of the motto, *Aie pour suspecte toute nouvelleté*. "These antiquated ideas partially ceased to be propagated when the agricultural societies began to multiply, and under the influence of the *renovation* which Bourgelat commenced, during which appeared Parmentier, Turgot, Vilmorin, Thouin, and so many others who have adorned French agriculture towards the end of the eighteenth and the beginning of the present century. Bourgelat, more than all the others, had a claim to create veterinary science. He had directed the school of equitation at Lyons, written a *Traité complet d'Equitation*, published his *Elements d'Hippiatrique*, and had become one of the most brilliant coadjutors of Diderot and D'Alembert, the directors of the *Grande Encyclopédie*. This illustrious reformer only directed the Lyons school for a few years. The resolution he formed to leave his native town and found at Alfort a second veterinary school, was a happy circumstance for French agriculture, as his successor was the Abbé Rozier. This learned agriculturist was well versed in physics and botany, and he had been an amateur student of his predecessor." Rozier was killed at the siege of Lyons, after adding largely to agricultural and physical knowledge by the publication of his *Journal de Physique* and *Cours d'Agriculture*. "But while the labours of Rozier were raising agriculture to the rank of a science, the school of Alfort, under the protection of the minister, Berthier de Sauvigny, completed its tutorial staff in receiving, in 1786, three learned professors: Daubenton, who taught 'rural economy;' Vic d'Azyr, 'comparative anatomy;' and Fourcroy, 'chemistry.' Gilbert, one of the most brilliant pupils of the school, was their colleague." Heuzé details the many important treatises published by Gilbert, and adds that he was at the same time a veterinarian and agriculturist. "The position he had acquired by his sound sense and his profound and varied knowledge, made him most useful to agriculture in France during the Revolution. It is chiefly to him that we owe the Rambouillet flocks of Merino sheep, the conservation of the Tuileries' and Versailles' parks, and the creation of the fine experimental agricultural establishment organised in the ancient domain of Sceaux, and which he presided over up to the moment when the Directory suppressed it, as a measure of economy. Gilbert became a joint director of the Alfort School. Having accepted the mission of going to Spain to purchase the finest sheep that could be found in the 'cavagnes,' or sheep-

folds of Estramadura and Andalusia, he little thought, when leaving his family at Alfort, that he would never return to his country. His death was a considerable loss to veterinary medicine and to agriculture. His friends alone knew better than any others, said Cuvier, in pronouncing his eulogium at the Institute, how great were the delicateness and extent of his generosity." The distinguished successors of Gilbert at Alfort are spoken of, as well as those of Daubenton, and particularly Victor Yvart, who really created the chair of agriculture at that celebrated school, it being, previous to his advent, rather a chair of botany and zoology. The progress of agriculture during the present century is lengthily dwelt upon, and the eloquent address terminates with a review of the different schools of rural economy, and the close relationship between veterinary science and agriculture. "Agriculture and veterinary science are two branches of human knowledge, between which the most intimate relations exist. If the first disregards the assistance veterinary medicine can render it, it is exposed, in a multitude of instances, to considerable losses, or imposes on itself great sacrifices; if, on the other hand, veterinary science ignores the general principles of agricultural science, it will frequently be very difficult for it to take into account the causes of disease of cattle, or the deadly epizoöties which in a few months diminish the number of domesticated animals in a country. This relation of agriculture with veterinary science, and reciprocally, is not modern; it had germinated in the mind of the Abbé Rozier, when he was called upon to assume the direction of the Lyons Veterinary School, and it made him modify his teaching, in giving it a more scientific and agricultural tendency at the same time; it was carried into operation at the Alfort Veterinary School, when a chair of rural economy was instituted therein. Vogeli had therefore some reason for saying, on one occasion, that Bourgelat, when he founded veterinary science, was too much of a horseman and not enough of an agriculturist. Far be it from my mind to affirm that the students of the veterinary schools have an interest in being initiated into all the operations of agriculture and arboriculture. Nevertheless, if I refuse to admit the necessity of such a complete study, I remain convinced that henceforth they cannot remain in ignorance, on the one hand, of the general principles which control the application of manures, the preparation of the soil, and the practice of sowing and gathering the crops; and, on the other hand, the conditions which assure the existence of pastures and natural prairies, and the cultivation of forage plants and cereals, the products of which play so important a part in rearing, feeding, and fattening animals.

"These are the various subjects for study which will furnish the materials for the few conferences I shall have to give you. In accepting the proposal which the Minister of Agriculture and Commerce did me the honour to address to me, I have not concealed from myself the difficulties of the task I was about to undertake; but confident in your love for study, and certain that I might reckon on the willing concurrence of my learned friend and colleague, M. Reynal, Director of the School, I shall pursue this task with all the ardour of which I am capable. I shall be glad if these conferences may assist in still further increasing

the reputation of the Alfort School, the most glorious, without contradiction, of all the veterinary schools which have been founded in Europe."

BAKTERIA AND PUTREFACTION.

DR. ARNOLD HILLER, of Berlin, has made a series of elaborate experiments, with the view of determining the relations of bakteria to putrefactive changes, and has come to the conclusion that the whole subject requires to be re-examined from the beginning. He has demonstrated that active putrefaction may take place in the absence of bakteria, and that bakteria may be present in abundance without giving rise to putrefaction. In short, it seems quite possible that effect may have been mistaken for cause.

THE INFECTIOUSNESS OF TUBERCULOSIS IN CATTLE.

IN the *British and Foreign Medico-Chirurgical Review* for October, 1874, we published an article on "The Transmissibility of Tuberculosis," in which the results of experiments and observations were alluded to, and evidence offered to prove that this serious diseased condition was capable of transmission in certain species, not only by inoculation of the tuberculous matter and its ingestion by the stomach, as well as by consuming the milk and flesh of those which were affected; but also that those cattle which were the victims of the malady could, by contact, infect healthy bovines. Among other correspondents in this country which it induced to communicate their views, is Mr. Dewar, veterinary surgeon, Midmar, Aberdeenshire, who writes:—

"I have great pleasure in congratulating you on the description given with regard to the transmissibility of 'tuberculosis.' My attention was particularly directed to the subject in 1839, immediately after I left the Edinburgh Veterinary College. In my locality the disease prevailed to such an extent, and was so very fatal, that the owners would not sell what were considered diseased animals; and one after another became affected. It appeared as if all were equally susceptible—cows, queys, and working oxen—and all died sooner or later. Being but a tyro, I was grieved to the heart because I could never make a permanent cure of any; although several flattering cases presented themselves, yet they only lasted for a time, and succumbed in the end. I called in the district physician, and made a *post-mortem* examination of one of the animals in his presence; we were both of the same mind with respect to the disease: viz., tubercle of the lungs—he termed it 'phthisis pulmonalis'; and we both agreed that the byres (cowsheds) were too close. They were recently built, and ceiled and plastered like a drawing-room. The proprietor agreed to remove the partition walls, and to make openings opposite one another in the outside walls; so that there might be a current of fresh air passing through. These alterations, combined with cod-liver oil, and tonics and stimulants, may have prolonged life; but yet no cure was effected, and, as far as I can remember, that herd died out. I resorted to every possible precaution, when new cattle were purchased, to prevent infection; as I had an idea, even at that time, that the disease might be communicated from one to another when in immediate contact. The precautions adopted when fresh cattle were purchased had the desired effect, for in a few years after there was as good a lot of cattle as any in the district. The occurrence of disease in

that herd left an impression on my mind that never can be effaced, and made me always dread the evil consequences of tuberculosis. Having practised in the same locality, which is an extensive breeding and rearing district, I have seen several herds decimated. Although I sometimes foretold the owner what he might expect, yet he did not believe me until so many were affected that the byres were infested with the fearful malady. And your remarks with regard to nose contamination are so true, that I do not think it possible any can escape which are so exposed. I have also seen it as Grad has: the same stall infecting beast after beast, until a thorough cleansing and disinfection, with plenty of fresh air, had removed all infection from it. But the experience I have had of it makes me fear when once it has been witnessed in a few animals in a herd, and in different stalls; for my observations would go to prove that in all probability some animals are born with it, and if congenital, the stock is difficult to purge of its seeds, if I may so say. If one of the parents is tuberculous, the progeny is more susceptible by three-fourths. My experience of it makes me dread it, and fear it even more than what you have written upon it. It is so insidious in its attacks, that when you think you are all right it may appear in a grandchild of what was considered a very healthy animal, and outbreak after outbreak will occur years after all has been seemingly healthy. We must take into consideration soil, climate, locality, etc. I see in last week's *Lancet* that a medical gentleman had been called in by the Sanitary Inspector, and condemned a cow affected with tubercle, but two Veterinary Surgeons pronounced the carcase sufficiently healthy for human food. I believe it is customary in England, as well as here, to eat the flesh of animals affected with, or which may have died from the effects of, tuberculosis; but although customary, in my opinion all animals killed and found affected with this disease should be burned. I hope you will forgive me for taking the liberty of writing you upon this subject, but I felt so pleased with your views of it that I deemed it to be my duty to thank you.

Abstract of the Proceedings of Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

Quarterly Meeting of Council, held October 5th, 1875.

Present—The President; Professors Simonds and Brown; Messrs. Balls, J. C. Broad, Fleming, Gowing, Mayer, Cox, Moore, Field, Dray, Woodger, Talbott, Greaves, Withers, Cartwright, and the Secretary.

The Secretary read the notice convening the meeting.

The minutes of last meeting were read and confirmed.

CORRESPONDENCE.

The following letters were read:—

Letter from Mr. J. Lawson, of Manchester, regretting his inability to attend the meeting of Council.

A circular from Mr. Black, of Regent Street, containing a list of subscribers, and stating that a portrait of Dr. Alfred S. Taylor, F.R.S., would be published for private circulation, and that India proofs with autographs would be issued at 15s. each; and wishing to be informed if any member of the profession would become subscribers.

It was moved by Mr. Broad, seconded by Mr. Field, and resolved, "That the Council purchase a portrait of Dr. Taylor, with the necessary furniture."

A letter from Professor Walley, Edinburgh Veterinary College, acknowledging receipt of Mr. Lewis's certificate, and regretting his inability to attend the meeting.

A letter was read from Messrs. Wilkinson and Son, solicitors, referring to remarks said to have been made by some members of Council to H.R.H. the Duke of Cambridge, with reference to the charter of the Royal Veterinary College, which led to their (Messrs. Wilkinson) being called upon by His Royal Highness to exculpate themselves and Professor Simonds from a distinct charge of fraud; and asking that inquiry might be made of those members, as agents of the R.C.V.S., upon what grounds they had made these representations.

The Secretary was instructed to inform Messrs. Wilkinson that no members of the Council, as agents of, or deputed by, the Council, waited on H.R.H. the Duke of Cambridge with reference to the charter obtained by the Royal Veterinary College.

A letter from Mr. R. H. Dyer, of Limerick, calling the attention of the Council to certain members of the profession appending the words London and Edinburgh to the initials of M.R.C.V.S., thus representing that they had a double qualification. He also called attention to the fact that the brother of the late Mr. Hugh O'Conner, M.R.C.V.S., of Limerick, was now assuming the title of his deceased brother, and was practising under his diploma.

A letter from Mr. W. G. Dixon, of Southport, requesting information as to the obtaining of the Highland and Agricultural Society's certificate, to which the Secretary replied in due course, with the necessary information.

A letter from Dr. Dunsmure was read, with a report of the "First Examinations" held in Edinburgh and Glasgow on July 20th and following days, from which it appeared that from the New Edinburgh Veterinary College eight passed and four were rejected; from the Edinburgh Veterinary College seven passed and two were rejected; and from the Glasgow Veterinary College twelve passed and three were rejected.

A letter from Mr. G. Turner, M.R.C.S., Landport, wishing to be informed if a qualified medical man could present himself for examination, if he could show that he had been studying under a veterinary surgeon.

The Secretary was instructed to reply that all candidates for the diploma of the Royal College of Veterinary Surgeons were required to produce a certificate of their having been duly educated at one of the recognised veterinary schools.

A letter from Professor Walley, Edinburgh, wishing to be informed whether a Canadian M.D. would have to go through the whole course of professional study in order to qualify himself as a M.R.C.V.S.

The Secretary was instructed to state that a Canadian M.D. could not be admitted, except upon the usual terms.

Professor Walley also wrote, asking whether there would be an examination in Scotland at Christmas; to which the Secretary was desired to state that there would be an examination in December, provided there was the requisite number of candidates.

The Secretary read the report of the Committee appointed to inquire into the excessive cost of the Scotch examinations, and the advisability of two examinations being held in each year, instead of three.

From an investigation of the accounts and the reports received from Scotland, the Committee found the excessive cost to be occasioned by the small number of students which had been allowed to come up for examination, instead of the full complement of nine. In order to equalise the examinations, and reduce the expenditure, the Committee recommended that any odd number of students coming up for examination from each school be brought

together at the several meetings of the Board of Examiners either in Edinburgh or Glasgow, and that the railway fare of such students be allowed them.

The Committee also suggested that under no circumstance should a Board of Examiners be called for the examination of fewer than six candidates; at the same time they recommend the co-operation of the Principals of all the schools in furnishing nine candidates for each examination.

The Committee having placed themselves in communication with the Principals of the respective schools in London, Edinburgh, and Glasgow, letters were received from Professors Williams, Walley, and McCall, who were unanimous that there should only be two examinations. No communication was received from the Principal of the London school.

The Committee accordingly recommend that there should be but two examinations in the year.

The Committee also had their attention directed by one of the Principals of the Scotch schools as to the desirability of these schools commencing their winter term on October 1st, instead of November as heretofore. This the Committee highly approve.

The correspondence on the subject from Profs. Walley, Williams, and McCall was read.

The President moved, "That the report be received."

Mr. Fleming seconded the motion, which was agreed to.

Mr. Mayer moved the adoption of the report subject to the words "railway fare" being substituted for "travelling expenses."

Mr. Dray seconded the motion, which was carried unanimously.

The obituary notice was read.

Finance.

The report of the Finance Committee, together with the Treasurer's quarterly account and balance-sheet, was read, from which it appeared that the present liabilities amounted to £143 14s. 8½d., which the Committee recommended should be discharged. The above sum included the Parliamentary Agent's account.

Mr. Dray moved, and Mr. Gowing seconded, "That the report be received and adopted."

The motion was carried.

Cheques were ordered to be drawn for the current expenses.

College Fund.

The Committee reported that the balance at the bankers' was £104 14s. 7d., which they recommended should be added to the sum already invested in the three per cent. consols. There were also several promised subscriptions, which the Committee recommended should be applied for.

Mr. Mayers proposed, "That in one or more of the public journals the subscription list should be published, with a short paragraph appended to the statement already issued by the Council, and that a sum not exceeding £15 be paid for three insertions, the expenses of advertising to be paid out of the fund."

Mr. Fleming seconded the motion, which was carried.

Charge of Cruelty.

A letter was read from Mr. Fleming, enclosing an extract from the *Derby Advertiser*, which stated that a member of the veterinary profession, named Keay, had been convicted no fewer than twenty-three times for cruelty to animals, and that on the last two occasions he was sentenced to three months' imprisonment with hard labour.

A conversation ensued as to what steps the Council should take, when it was discovered that, under the bye-laws, it had no power in the matter.

Mr. Fleming gave notice that he would move an alteration in the bye-laws to meet the case.

A letter from Mr. Rowe, enclosing an advertisement from a Mr. Rotherham, who styled himself, R.V.C.S., and asking whether he was a duly qualified veterinary surgeon.

The Secretary wrote in reply that there was no such name on the list of members.

A letter from Mr. Moore, jun., enclosing a paragraph from the *Shrewsbury Chronicle*, in which a James C. Dobson, of Southport, styling himself veterinary surgeon, was convicted by the borough magistrates, and fined £5 and costs, for an aggravated assault.

The Secretary stated that he wrote to the editor of the journal, and informed him that the person in question was not a member of the Royal College of Veterinary Surgeons.

A letter was received from Mr. Bryan Coleman, of Chicago, asking for a copy of the register, in order to ascertain whether Mr. P. R. Courtneay, of the same place, had properly styled himself a M.R.C.V.S.

The Secretary stated that a copy had been sent to Mr. Coleman, as requested.

The Application for an Extended Charter.

The President brought forward the motion of which he had given notice in regard to the applying for an extended charter on behalf of the Royal College of Veterinary Surgeons. In a new charter he said he would disclaim any right to interfere with the privileges or rights of the schools; at the same time, he thought that the Council did not adequately represent the profession, and he would, in the first place, like to see power taken in the charter for the Council to be elected by voting papers, the same as occurred at Oxford, Cambridge, the London University, and other institutions where the constituency was widely dispersed, and that each member pay something like five shillings a year for registration, and Secretary's and other expenses. The second point in which the charter required emendation was power to grant a higher degree than mere membership. Last spring there was a committee appointed to consider the question, but it came to nothing, because there were great doubts whether, under the present charter, they had power to confer the higher degree. He would also like the Council to have power to hold their meetings at London, Edinburgh, or any other place which they might appoint, as it was a grievance for members who lived at a great distance having to come to London. The better plan would be to have the meetings in alternate years in Edinburgh and London. He thought it also desirable, in order to ensure a standard of qualification for the diploma, that there should be a Joint Board instead of a separate Local Board, with one or two members going from London to Edinburgh at each examination, and *vice versâ*. Under the existing charter there was power to erase the names of unworthy members, but in the new charter it would be desirable to state that power more distinctly. It would also be desirable to have some new regulations in regard to medical men studying for the veterinary profession. They started with the knowledge that a great many veterinary surgeons required to have, and instead of suspending the bye-law, as proposed some time ago, there should be power given to admit them after half a term of study, or something of that sort. The present charter prohibited professors from being examiners; and if the Council were to decide upon seeking for a new charter, it might be as well to endeavour to get power to prevent unqualified men from styling themselves "veterinary surgeons;" but he very much doubted whether it

would be possible to get such power. He thought it might be desirable to appoint a committee to consider the details of the question, but at present he would move that it was desirable to apply for an extended charter.

Mr. Fleming seconded the motion. The power, he said, to grant higher degrees in veterinary medicine was, by the present charter, entirely shut out from the Council, and that fact alone would be a very strong point in favour of having the charter revised; because, he contended, as matters stood, a person who became a member of the Royal College of Veterinary Surgeons had nothing to look forward to after receiving his diploma. He therefore thought that they, as the University of the profession, should have power to grant a higher degree than that which pertained to membership. If they could get a charter enabling them, five years after a young man had obtained his first degree, to examine him again as to his qualifications, he was perfectly sure a large number of young men would work hard to obtain a higher degree, and this would at once give them a much more creditable rank in the profession and in the estimation of the public, than they held with the present degree.

Mr. Mayer thought that a committee should be appointed to investigate the matter, and report thereon to the Council, and that a meeting should subsequently be held of the veterinary profession, and a free expression of opinion invited as to the course to be pursued.

The motion, "That it was desirable to apply for an extended charter," was then put and carried.

The President then moved, "That a committee be appointed to take the matter into consideration, and report."

Mr. Dray seconded the motion, and moved, "That the following gentlemen be appointed as members of the Committee, viz.: Messrs. Fleming, J. C. Broad, Field, junr., Harpley, and Cox." *

Mr. Balls seconded.

The motions were then put and carried unanimously.

The President announced the termination of the Quarterly Meeting of the Council, and the meeting was then made special for the purpose of making an alteration in Bye-laws 26 and 31.

Special Meeting.

The President explained that Bye-law 26 provided that "three examinations shall be held in each year, namely, April, July, and December; and that it was resolved at the last meeting, and now needed confirmation, to substitute "that two examinations shall be held in each year, namely, July and December." He moved accordingly.

Professor Simonds referred to the examinations that were held at the Royal Veterinary College, and cited instances to show that such an alteration as was proposed would be impracticable, and would run into direct collision with the Royal Veterinary College, which was now a corporate body, and had the power of making its own bye-laws. It had made them, and by them it undertook that the student should be subjected to a first examination at the close of one winter and one summer session, and to a second examination at the close of the second winter session. It was not prepared to alter its bye-laws; and if such an attempt as was proposed by the Council were made, it would create a collision directly, an occurrence which was most undesirable. It was doubtful whether the Council had any power whatever in the matter, and was a question really belonging to the schools themselves, being more of an edu-

* In several important particulars this report is very imperfect. It may be noted here that Professor Simonds declined being a member of the Charter Committee, and that Mr. Harpley was nominated instead.

cational question, and not merely relating to examinations. He thought that the object of the Council would be entirely defeated if the second summer session were attempted. It was a matter that required a good deal of consideration, and he suggested that they should take counsel with the Royal Veterinary College on the subject, by means of a committee or otherwise, in order that some practical plan might be agreed upon, and that an extended period of time for education might be adopted. If any such conference between the two bodies were held, they should bear in mind that, as they could not accomplish their object by a mere summer session, they should have their students examined for their second examination, not at the end of the second summer session, but absolutely at the succeeding Christmas. Some such plan was worthy, he thought, of consideration.

Mr. Mayer.—Do I understand Professor Simonds to say that after the first examination in July he would propose the pupils should remain until the second Christmas after?

Professor Simonds said that was so. He would amend the bye-laws so as to drop the term winter session and summer session altogether, and say that at the end of so many terms the student should be eligible for his first examination, and eligible for his second examination. It was necessary to have three examinations in the year, and he would be sorry to see the law in that respect altered. He would concede the point, that a student should be told at the time he was rejected, that he would not be examined for so many terms afterwards; but if a student were rejected on some slight matter, as some of their best men were, he should have a chance of coming up at the end of the next three months, as he had now; and if that were so, it was necessary to keep on the three examinations.

Mr. Fleming said it was a matter of very deep importance to the Royal College of Veterinary Surgeons, as a body responsible for the qualifications of the veterinary surgeon. Indeed, it must be obvious at the very first glance that it was utterly absurd to attempt to make a young man a veterinary surgeon after twelve months' attendance at a veterinary school. Many of the young men were utterly incompetent to go into practice solely from want of college education. He was quite sure, when the Governors of the Royal Veterinary College understood this, that they would at once consent to the period being extended. The consent of three of the schools had already been given to an extension of the period of study, and to two examinations in the year. There was not the slightest doubt that the alteration could be effected with the greatest harmony. It would be a great saving to the College, and simplify the teaching of the schools.

The President said he would be prepared, for the sake of unity and concord, to say that no student shall be eligible for the second or final examination until he had attended at least one winter and one summer session after passing his first examination. The proposition which the Scotch schools objected to, namely, the three examinations, they could object to for themselves, and he would be prepared to allow the second motion only to stand.

Professor Simonds said he would enter his protest against that, because it would cause a collision with his school.

After some conversation, it was ultimately moved as an amendment by Professor Simonds, "That the discussion be postponed until the next meeting of the Council."

Mr. Dray seconded the motion, which was carried, and the Council adjourned.

Jurisprudence.

CONFLICTING VETERINARY EVIDENCE.

ATTENTION has been drawn to a case tried on September 28th last, at Lambeth Police Court by Mr. Chance, the sitting magistrate, in which Mr. Frederick Mercer, landlord of the "Warrior" Tavern, Coldharbour Lane, Brixton, appeared to a summons taken out at the instance of the Metropolitan Board of Works, for having neglected to give notice that he had a bay mare affected with Glanders or Farcy, contrary to the provisions of the Contagious Diseases (Animals) Act.

Mr. Herslet prosecuted; and Mr. Froggatt, solicitor, defended.

The case has been before the court on several occasions, and exhibited features of an important and somewhat singular character. On the 23rd of August, the horse belonging to Mr. Mercer was ill, and a veterinary surgeon who was called in said it ought to be destroyed, as it was suffering from Glanders. Mr. Mercer, not feeling satisfied, called in Messrs. Phillips and Cherry, two other veterinary surgeons, who gave their opinion that the animal was not suffering from such a disease. The first veterinary surgeon, finding this had taken place, gave information to the authorities that the horse was suffering from Farcy or Glanders, and the present proceedings were taken.

In the course of the case two veterinary surgeons stated that the horse was suffering from Glanders or Farcy, while a third said it was Farcy only. On the other hand, Messrs. Phillips, Cherry, and another veterinarian declared the horse was not suffering from either disease.

Professor Pritchard, of the Royal Veterinary College, who was also called for the defendant, stated that he had made a post-mortem examination of the animal, and was of opinion that neither Farcy nor Glanders had existed. If the animal had suffered therefrom, there must have been some trace left of either disease. There would be no doubt about it in the appearance of the lungs. The horse, in his opinion, had died from Antrophoid Fever (?), which was not infectious. He examined the remains of the animal the day after its death.

Some other evidence having been given,

Mr. Chance expressed his intention of dismissing the summons, as it was impossible after the difference of opinion to arrive at any other decision. Under all the circumstances he should order the defendant to pay £2 2*s.* costs.

Mr. Froggatt protested against such an order, and contended that the magistrate had no power to make it. He would rather that the magistrate inflicted a fine so as to enable him to appeal.

Mr. Chance declined to accede to such a request. It was his intention to dismiss the summons, and also to award costs against the defendant, as he had no doubt he had power to do so. The case had been adjourned for certain evidence, and he had intimated that he should certainly make defendant pay some costs.

Mr. Froggatt understood the adjournment was not on the ground mentioned by the learned magistrate.

Mr. Chance explained that his chief ground for giving any costs against defendant was from the fact that his agents or friends had prevented free access to parties who wished to examine the horse.

The summons was accordingly dismissed, and the £2 2*s.* costs were paid by Mr. Mercer.

Notes and News.

GLANDERS AND FARCY IN BELGIUM.—According to the *Annales de Méd. Vétérinaire* for June, 1875, Brussels and its *faubourgs* have been much infested with Glanders and Farcy. The causes have been found to be always the same, and as in England, they are not likely to be removed. Of forty-one cases of Glanders and Farcy declared in the province of Brabant, the Government Veterinary Surgeons for Brussels only ordered the slaughter of thirty.

GLANDERS IN THE GERMAN ARMY.—We hear that Glanders, a disease that wrought fell havoc amongst German army-horses in the field, in 1870-71, when it was asserted to have been contracted in French quarters, is now rife in the Fatherland, and exceptionally virulent in the Cavalry stables. At a recent inspection of the First Army Corps at Dantzig, a Dragoon regiment is said to have been absent bodily, owing to losses thus sustained.

AN IRON CONSTITUTION.—A short time since W. C. Hodgkinson, horse-slaughterer, Sanhills, purchased the carcase of a horse that had died suddenly. On cutting it up, he found in the colon about 1,000 nails of various sizes, a number of screws, buttons, and several other small things not less difficult to digest.

PARASITIC DISEASES IN AUSTRALIA.—Our latest advices from South Australia report the rapid increase of worms and flukes among stock, and their appearance in districts previously clean. The *Journal of the National Agricultural Society of Victoria* recommends planting swampy ground and low-lying country with willow and red gum, especially the willow, as it absorbs much moisture, and the leaves contain a bitter tonic (*Salicine*), which is much relished by sheep and is a good anti-parasitic. The same journal mentions that experiments to test Sullivan's cure for fluke, conducted under the supervision of the Chief Inspector of Stock, terminated unsatisfactorily, owing to the animals experimented upon being in the last stages of the disease, and too weak to undergo medical treatment. In several the flukes were found dead and decomposing.

THE MUNICH VETERINARY SCHOOL.—The number of students attending this excellent school, which is presided over by Bollinger and Franck, was for 1874-75, 78. These were divided into 34 first-year, 16 second-year, and 28 third-year students.

VETERINARY SANITARY POLICE IN PRUSSIA.—The Prussian Minister of Agriculture has laid before the legislature a bill relating to sanitary police, and applicable to all the epizoötic diseases of animals which are readily transmissible, with the exception of Cattle-plague. This bill is divided into three chapters, the first of which fixes the group of maladies to which the law shall be applied; the second contains the measures to be employed to prevent the introduction of these maladies into Prussia; the third chapter is divided into five paragraphs, which refer successively to—(*a*) general arrangements; (*b*) special dispositions against Anthrax, Contagious Pleuro-pneumonia, Glanders, Sheep-pox, Scabies, the Coitus-disease, and Rabies; (*c*) dispositions specially applicable to slaughter-houses and knackeries; (*d*) penal dispositions; (*e*) the manner in which the law is to be applied.

UNIVERSITY JURY OF BELGIUM.—By Royal Decree, dated March 23rd, 1875, M. Derache, professor at the National Veterinary School, and also at the University of Brussels, is designated a member of the combined jury of Grand-Bruxelles, for the grade of Doctor in Natural Sciences.

ANTIDOTES TO SNAKE-POISONING.—The Government of Victoria, Australia, has received the report of the Indian Commission appointed to examine and investigate "the effects of artificial respiration, intravenous injection of ammonia, and administration of various drugs in Indian and Australian snake-poisoning, and the physiological, chemical, and microscopical nature of snake-poisons." The Commission sum up the result of their investigations in the following terms :—"Seeing, therefore, that an effective poisoning after the bite of an Australian snake is rather the exception than the rule, it would be easy to understand how any antidote or remedy might gain temporary notoriety. To sum up—1. The result of our experiments on dogs goes to show that the intravenous injection of ammonia possesses no antidotal or remedial power. 2. That the intravenous injection of ammonia, probably by promoting the absorption of the poison, rather expedites than retards the tendency to death. 3. That the Indian cobra is from six to thirteen times more poisonous than the snakes of Australia. 4. That a given quantity of the cobra poison is more powerful and more rapidly mortal than the same quantity of Australian snake-poison. 5. That a large proportion of the bites of the two kinds of Australian snakes with which we experimented were, under the usual conditions, ineffective. 6. That the facts alluded to in 3, 4, and 5 are sufficient to account for the unmerited recognition of the intravenous use of ammonia as an antidote of a mode of treatment in poisoning from Australian snakes." Professor Halford is, according to the *Melbourne Argus*, at the request of the Medical Society, preparing a digest of his experiments on animals with the intravenous injection of ammonia, and also a classified list of the cases in which ammonia has been injected for the cure of snake-bite.

TEXAN FEVER.—The "Spanish Fever" has broken out in a herd of Texas cattle pasturing at Churchville, Maryland.

CANINE RABIES IN HOLLAND AND BELGIUM.—The Netherlands Government are now occupied in discussing an enactment which has for its object the prevention of the dangers resulting from the prevalence of rabies canina. From what we have heard, wearing the muzzle is to be made compulsory at all times and seasons. In Belgium, as well as in Holland, the disease appears to have been rather common. Since the month of June, 1874, a large number of suspected dogs have been brought every morning to the National Veterinary School, near Brussels, and several amongst them have been discovered to be rabid. The provincial administration, in order to hinder the propagation of the malady, ordered the communal administrations of Brussels and its suburbs to publish the regulations with regard to wandering dogs; but it appears that the police have considered these prescriptions as a dead letter, and the number of cases of rabies has not diminished. Quite recently a veterinary surgeon, M. Reul, has witnessed three cases, and he states that to his knowledge four people have been bitten in the hands by undoubtedly mad dogs.

ARMY VETERINARY DEPARTMENT. INDIA.

BY THE RIGHT HON. THE GOVERNOR IN COUNCIL.

(From the *Fort St. George Gazette* of August 24th, 1875.)

WESTERN, Veterinary Surgeon G., is promoted to the rank of first-class veterinary surgeon, in succession to First-class Veterinary Surgeon Pritchard, Indian Service.

ROWE, Veterinary Surgeon R., R.A. (A batt. 11th Brig.) to England, overland, from date of embarkation, to appear before a medical board.

The undermentioned officers have leave of absence:—

BOULTER, Veterinary Surgeon F. C. (E batt. C Brig.), R.H.A., to Maunpore, for fourteen days from August 25th, on medical certificate.

PHILIPS, Veterinary Surgeon C., is directed to proceed from Agra to Barrackpore, for duty with Royal Artillery.

POWELL, Veterinary Surgeon B. A. W. (doing duty with D. batt. 11th Brig. Royal Art.), to Mussoorie, from May 17th to October 31st, on medical certificate.

Obituary.

Mr. S. Greenlees, M.R.C.V.S., of Todmorden, Lancashire, died on June 2. He studied in Edinburgh, and received his diploma April 16, 1867. Mr. J. J. Plunket, Royal Artillery, whose demise we recorded in our last issue, died August 24.

The veterinary, in common with the medical profession, must deeply regret the death, at the age of sixty-three years, of Dr. J. Hughes Bennett, Professor of the Institutes of Medicine in the Edinburgh University. This melancholy event occurred at Norwich on September 25th. Professor Bennett's contributions to general and comparative, no less than to human, physiology and pathology, are very numerous, and some of them of great interest and importance. His investigations into the growth of parasitic fungi on animals were of special interest to the veterinarian, and he was one of the first to show that certain cutaneous diseases of the human species are due to these organisms. His original views with regard to inflammation brought about a most beneficial change in its treatment—a change which has been attended with the happiest results in veterinary medicine. His other services to medical science, and his large contributions to its literature, stand as a worthy monument to his ability, originality, and never-ceasing industry.

Correspondence, etc.

DISGRACEFUL ADVERTISING.

To the Editor of the VETERINARY JOURNAL.

DEAR SIR,—I send by same post a "placard" which was exhibited inside a "cabman's rest" at our fair yesterday. I do not suppose that a member of our profession who is capable of advertising himself in such a manner, is sufficiently advanced to read the *Veterinary Journal*, but I leave any further comments in your hands. Last fair, I am told, he employed a "sandwich man" to carry these placards back and front during the day.

This "Member" is, if I am not mistaken, related to one of our most prominent brethren—Professor Simonds.

Yours truly,
J. M. PARKER, M.R.C.V.S.

BIRMINGHAM, *October 1st*, 1875.

[We certainly are of opinion that the placard system of obtaining clients is most objectionable in every respect, and betrays a very degraded notion of professional dignity. In the placard forwarded by Mr. Parker (a very

common placard indeed), it is announced that "Mr. ——, Member of the Royal College of Veterinary Surgeons, Veterinary Surgeon, is in attendance at the 'Malt Shovel' during the Fair, for the purpose of Examining Horses." This medium may be in every way congenial to the man who has no higher notion of the duty he owes to his profession, or the respect due to himself; but the practice stands condemned by every member who has any regard for his calling. The "cabman's rest," the "sandwich man," and the "Malt Shovel," are more fitted for the deceptive announcements of a mountebank than those of a legitimate practitioner in veterinary medicine. We are certain that no member of our profession with a spark of gentlemanly feeling, or the faintest idea of his responsibility, would bring disgrace upon himself and the whole of his colleagues by resorting to such unworthy devices. Will some of the Birmingham veterinary surgeons take this defamer of respectability to task? If he has any sense of propriety, he may yet be made to mend his ways.]

NOTICES TO CORRESPONDENTS.

THE editor of the *Journal of the National Agricultural Society of Victoria* is thanked for his generous remarks on behalf of the *Veterinary Journal*, and for his promise of assistance.

We take this opportunity of acknowledging our grateful appreciation of the very complimentary manner in which the editors of the press in this country and abroad have spoken of the earlier numbers of this Journal, and their good wishes for its success. Nothing in our power shall be left undone to make it worthy of acceptation as the representative, in the English language, of modern Veterinary Science. With this determination, with "troops of friends," and with the support and encouragement of the veterinary, and many of the members of the medical profession, the prosperity of the venture, which we never for a moment doubted, is already assured.

Mr. Hill's case of "Scrofula," Cyclop's "Rupture of the Colon," Five Points "Indigestion," Mr. MacGillivray's paper on "Azoturia and Hysteria," Mr. Woodger's on 'Gastro-Enteritis," and other papers which were unavoidably pressed out in this number, will appear in our next.

Communications, Letters, Books, etc., Received.

COMMUNICATIONS have been received from A. Broad, London; G. Mitchell, Melbourne, Australia; A. Adrian Jones, Queen's Bays, Newbridge; Staff Veterinary Surgeon J. Collins, Dublin; J. M. Parker, Birmingham; J. W. Hill, Wolverhampton; W. H. Jones, Bridgend; "Five Points;" J. Lambert, 17th Lancers, Dublin; "Cyclop;" J. Woodger, junr., London: A. E. MacGillivray, Banff; G. J. Gould, Southampton; J. Freeman, Hull.

BOOKS: *J. Bell Pettigrew*, The Physiology of the Circulation in Plants, in the Lower Animals, and in Man; *C. Böhm*, Kalbefieber und Milzbrand; *C. J. Vaughan, D.D.*, Vivisection: a Sermon; Annual Report of the Veterinary Department of the Privy Council for the Year 1874.

JOURNALS: the *Annales de Méd. Vétérinaire de Bruxelles; Deutsche Zeitschrift für Thiermedicin; Achiv für Wissenschaftliche und Practische Theirheilkunde; Recueil de Médicine Vétérinaire;* the *Veterinarian.*

NEWSPAPERS: the *Macclesfield Courier and Herald;* the *Journal of the National Agricultural Society of Victoria* (three copies); the *Melbourne Argus;* the *Irish Times; Ackerbau Zeitung;* the *Sportsman; Land and Water; Hampshire Advertiser.*

All Communications, Books for Review, Advertisements, etc., must be addressed to the Publisher, 20, King William Street, Strand, W.C.

Morbid Specimens are to be forwarded addressed to the Editor, "Veterinary Journal," Brown Institution, Wandsworth Road, London.

Communications must be accompanied by the name of the writer, whether he may desire to have it published or not. Anonymous letters and articles cannot be inserted. The Editor does not hold himself identified with the views or opinions expressed by Contributors. Communications for insertion in the next number must arrive on or before the 15th of the present month.

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